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Service Bulletin

U.S. FOREST SERVICE
(Contents Confidential)

VOL. XII. No. 1. WASHINGTON, D. C. JANUARY 3, 1928.

SECRETARY'S NEW YEAR'S GREETING

To the Members of the Department of Agriculture:

I want to extend to each of you my sincere appreciation of what you have done for the benefit of agriculture during the year just closing. The Department of Agriculture has been, I believe, of greater public benefit than ever before, and this is due to the able, devoted labors of the thousands of men and women who make up the Department's personnel. I am sure that in thanking you I am expressing the sentiment of the people of the United States generally.

May you have a New Year full of prosperity and continued usefulness to agriculture and the nation.

Sincerely yours,

W M Jardine

ADMINISTRATION EXPERTS

By P. Keplinger, D. 2.

Since I have never been admitted to the inner councils where policies are formulated and the reasons for them discussed, I have always found it a source of amusement - like solving cross-word puzzles - to speculate on why things are as they are, to figure on why certain ideas are accepted and other rejected, and to watch one fad after another sweep over the Service, spend itself, and die. There are a lot of things, however, that I have never been able to understand.

One of these non-understandables is this: Why is it that in our organization where "experts" are accorded so much recognition, and where the title is so easily acquired, where we have so many different varieties - recreation experts, public relations experts, fire experts, grazing experts, etc. - why is it that we have never yet produced an administrative expert? So far, even though administration occupies about 90 per cent of our time, and many of our most attractive jobs are administrative, our administrative men have been content to be called merely "practical."

But what else is there for them to be? Could they be "scientific?" Is administration a science? What claims has it in that direction? In order that it receive recognition as a science there must be a system of classified knowledge based on fundamental principles. That there is such a body of classified knowledge and that it is based on fundamental principles, I offer as evidence the following quotations from school men of international standing:

> "In this study these fundamental factors and relationships are determined and formulated". "Until recent years, the scientific study of this subject has been confined chiefly to the industrial engineer and the organization analyst. But their work has been largely specialized in character and individual in approach. They have made little attempt to formulate complete working principles and to present them in such a manner as to enable the student of business organization fully to grasp their significance and to master the basic methods of applying them". "I have endeavored to formulate these principles...". Robinson, University of Calfornia.
>
> "The material in this book will be presented on the hypothesis that for educational purposes, the functions of administration are fundamentally the same in all business." "The business executive administers his business under conditions imposed by his environment, both physical and social. The student accordingly should have an Understanding of the physical environment. This justifies attention to the earth sciences. He should also have an understanding of the social environment, and must accordingly give attention to civics, law, economics, social psychology, and other branches of social sciences. A knowledge of environment is not sufficient, however. It must be supplemented with a range, of course, dealing with business management wherein ...", etc. Marshall, University of Chicago.
>
> "Success to the business administrator comes to mean a series of undertakings based on laws and principles writ in the nature of all that constitutes human experiences". Hess, University of Pennsylvania.

In fact, all our big universities now recognize administration as a science and give courses in it. Not only do they recognize it and teach it; they also devote time and funds to investigations, just as they do in other sciences.

It has, in fact, the same recognition as forestry, silviculture, or range management, the sciences in which we, as an organization, take such pride. In fact, scientists recognize range management not as a science in itself but as a branch of the fundamental science of management. In spite of this, I talked with a man last summer who claimed to be a range management expert but who had never read a single book on management; in fact, didn't seem to know that there was a fundamental management science. That's another thing that is hard to understand: To an outsider, that is like one claiming to be a pharmacist expert who had never heard of the fundamental science of chemistry.

This is not a criticism of the man or of grazing. My illustration could just as well have come from some other line - possibly better. Take this one: A few years ago, the Monument Nursery was troubled with a root rot. They needed expert advice. An expert was sent. He did not attempt to make a management plan for the nursery. No, he stuck to his specialty and worked on root rot. The management was left to the administrative men. The result? Control of root rot.

At about the same time, on the same Forest, there developed a recreation problem. Again they needed expert advice. Again an expert was sent. This time he was given administrative authority. He attempted to make a recreation-management plan. He, a recreation expert, gave administrative instructions to the Supervisor, a real administrative expert. The result? Subsequent events show that more than $2,000 in time and money were wasted - absolutely wasted - in that one season, and the recreation problem remained unsolved. As said before, why are things as they are? It is an interesting study, it you are not directly involved.

What about administrative practitioners outside the Service? Are they experts? They seem to be falling in line with the schools. For example, Mr. Beandry Leman, Vice-President of the Canadian Bankers' Association, in an address recently argued that administration is a "profession" (See November number of American Accountant) and that training for it should be the same as for other professions, namely, a general college education as a basis, followed by a professional course.

I wonder why his suggestion would not be a good one for us to follow. Since our work is so largely along this line, why do we not give more attention to the science of it? We are always talking about our need of "technical" men. Technical in what? In the work which occupies most of our time? Seriously, now, can you think of any reason why we should not emphasize the technical side of administration and recognize it on a parity with our other techniques? Why not recognize it even in our Civil Service examinations?

I do not presume that anyone with the information necessary to answer these questions of mine will have the time to do so, but possibly some others may be interested in them in the abstract, just as I have been. And, further, I hope you noticed that I said our administrative men were content to be called "practical", not that they were "merely practical."

THE LOG OF AN EARLY SALE

By Edward P. Ancona, D. 3.

The early files furnish much of interest to one who likes rooting around in the dust of a quarter century ago. That's really quite recent as history goes, but in point of Forest Service history it's the very beginning of recorded time. And in the light of present day procedure some of those early cases make one wonder that the people of the West did not rise and smite the first Forest officers in their stumbling efforts to unwind the red tape that bound their every move. Red tape in them days was RED.

Cases, sales for instance, that today are handled by scores in a year by a Ranger as one of the routine jobs and whose whole recorded file involves not more than a few sheets of paper, then took days of work, literally years of time to see to a finish, dozens of long letters filled with petitions, charges, recriminations, appeals to Congressmen, Secretary's letters, Bureau Chief's letters, and what not. Even such a simple thing as a cutting report was an appalling two paged, legal sized document in which among other things the Ranger every two weeks had to answer some 25 pertinent questions regarding the sale.

Today these files appear amusing, rather than otherwise. However, viewed from the proper angle they picture graphically the early struggles of the Forest Service. Most of the actors have passed on to their ultimate reward or to remote fields so it does no harm to chronicle the travails of at least one case.

For instance: S, Sales, Gila, Silver Bar Copper Mining Co. 7/17/01. (Sale in the Gila River Forest Reserve created March 2, 1899) July 25, 1900, application made for 700 cords Free Use (in woodland type) to be used as fuel at mine mill.

(1) August 3, 1900- Application rejected by Forest Superintendent at Santa Fe. Advised to apply for sale.

(2) August 13, 1900- Appeal to Commissioner G. L. O.

(3) August 13, 1900- Appeal to a U. S. Senator from Nebraska.

(4) August 20, 1900- Commissioner advises company to "petition" for sale.

(5) Sept. 27, 1900- The company respectfully petitions for the sale.

(6) October 18, 1900- The "petition" goes to the G. L. O. Approved by Supervisor and Superintendent.

(7) November 26, 1900- The Secretary of Interior in a four page letter rejects the petition and asks for more information.

(8) December 14, 1900- No action on petition reached field. The Superintendent askes G. L. O. why.

(9) December 20, 1900: He gets it. A 17 page beautifully written letter from the Forest Supervisor. (This involved a week's field trip and the gathering of a surprising amount of data, on mines, mining history, use of lumber and cordwood, description of proposed sale area, etc.)

(10) January 16, 1901- The Secretary of Interior again rejects the petition for lack of data!!

(11) January 21, 1901- The company appeals to the G. L. O.

(12) February 14, 1901- The Secretary again rejects the petition- "I have under consideration a revision of the system for disposing of timber within forest reserves - to put the matter on a more scientific basis".

(13) March 4, 1901- The company sent its manager to Washington in person to see the Secretary.

(14) March 18, 1901- The Secretary tells the G. L. O. to resubmit the petition.

(15) March 22, 1901- (Hurrah!) The petition is granted.

(16) March 25, 1901- The Secretary raises cain with the G. L. O. and cancels the March 22 permission. It appears the company all along has been keeping it's mill running on trespassed wood! It couldn't wait.

(17) April 12, 1901- The Secretary says go ahead again- It appears some Forest officer told the company to cut all they wanted free for mining purposes. But kick the Supervisor that did it in the pants - and tell everybody to follow instructions.

(18) May 18, 1901- The sale is advertised until June 22 in the Socorro "Chieftain."

(19) June 15, 1901- The company puts in the only bid received and on July 1 the Supervisor recommends sale be made.

(20) June 28, 1901- The Land Office at Las Cruces also recommends sale be made.

(21) July 10, 1901- The Secretary of Interior permits cutting to start pending completion of contract.

(22) August 10, 1901- The first cutting report is made.

(23) 1902 - There's quite an argument because the boundaries of the sale were not marked. It finally gets marked in March. However in May an inspector says its a poor job. Also that all the contract requirements were violated.

(24) May 22, 1902- The last cutting report and recommendation that the sale be closed.

(25) March 18, 1905- The Acting Forester asks the Supervisor if the sale is not ready for closing and the Supervisor says it was closed three years ago.

PAX VOBISCUM.

LODGEPOLE VS. CEDAR AND FIR

By Philip Neff, D. 1.

In the Service Bulletin of November 7, under the title "Creosote and Silviculture," Kircher shows that with the use of creosote District 4 is able to advance silvicultural practice in lodgepole pine stands. The same thing is being done to some extent in D-1 and D-2. But what is the final net result?

The average productiveness of the lodgepole pine land on which ties are now being cut is an average of about fifty to sixty board feet per acre per year, of which forty to fifty per cent in volume is now utilized. With the use of creosote and better marketing, probably sixty to eighty per cent of the volume per acre may be utilized, and certainly such an improvement in utilization, with a corresponding improvement in silviculture, is worth while if lodgepole pine stands must be cut.

Cutting the best of the lodgepole pine into ties and posts may be putting it to its highest use now, but what of the future, and what of the large quantities of ties and posts available in the Inland Empire and Pacific Coast regions? We are discouraging the cutting of larch-Douglas fir tie-sized stands here and refusing to make sales to tie hacks at all, because there is a surplus of sawed ties available at the large mills which are cut from the hearts of large trees and trees of poor quality. Seventy-five per cent of the volume of these trees is utilized in this way, but if they are cut into lumber it is of such low grade that it will not sell for the cost of production.

For every lodgepole tie put on the market a sawed tie from the Inland Empire or Coast is left out, and that means (in the Inland Empire) that it remains in the woods, either to hamper good silvicultural practice or to be killed in a broadcast burn.

The same thing applies, in a more pronounced way, to posts. Less than half of the cedar posts on white pine-mixed cutting areas can at present be marketed, and their removal is often absolutely necessary if the area is to be productive at all.

These areas have an average acre productiveness six to eight times as great as the best lodgepole pine lands; therefore, I hope D-4 and Mr. Kircher will not be successful in their experiments which will put lodgepole pine posts on a basis where they can successfully compete with Inland Empire posts.

We can control the cutting of lodgepole stands, on which carrying costs and fire losses are low, because they are principally Government-owned, whereas white pine-mixed stands are principally privately owned and are being too rapidly cut on account of the extremely high carrying costs and fire losses.

Why cut the lodgepole which the Almighty placed high up and presumably out of our reach for future generations?

THE VILLAGE SMITHY TAKES TO THE ROAD

By F. V. Horton, Columbia.

We, too, have been guilty of murmuring when we couldn't get our horses shod because the old cross-road's blacksmith shop is now tinkering up the jitneys - but no more. Last summer during the stress of an acute fire season we were faced with the problem of shoeing 45 head of pack horses, and as usual, when we had to, we did.

We found a real horse shoer - a real gorilla who could grab the hind foot of a snaky hybrid and make him like it. This smith has a truck fitted with a forge, a stock of shoes, tools, in fact, everything needed to tack the shoes on any number of horses or mules, and it was a pleasure to watch him work. He goes anywhere, and his charge for mileage is more than compensated for by the time saved. His work is guaranteed and he works as fast as any old-timer I have ever seen.

Yes, the old order changeth and the village smithy has left its chestnut tree and now goes to its work at 30 miles per hour instead of the work going to the smithy at 3 miles.

THE IMPORTANCE OF LIGHTNING AS A CAUSE OF FOREST FIRES

In Idaho and Montana, a region famous for its valuable stands of western white and yellow pines, and notorious for the inflammability of its dense forests, the problem of protecting the forests from lightning is probably more acute than anywhere else in the country. In this region, during 1926, lightning caused 59 per cent of all fires and did 72 per cent of the total damage. In order that more intelligent protection might be given to areas where lightning hazard is high, the Lightning Storm Study was undertaken to learn more about the occurrence, characteristics, and effects of lightning storms. Since 1922 over 5,000 storm observations have been made by the lookouts and analyzed by the Northern Rocky Mountain Forest Experiment Station. The main points brought out by this analysis are as follows:

1. The period of danger from lightning is usually confined to the 122 days between June 1 and September 30.

2. The danger of lightning fires is not evenly distributed throughout this period, but occurs in waves or peaks which usually occupy a total of only 15 days or 12 per cent of this 122-day hazard.

3. Lightning storms do not regularly travel regular topographic paths or directions as was formerly believed. Single storms have seldom been found to travel more than 60 or 80 miles as an uninterrupted unit. Often a storm ceases to emit lightning after covering a narrow path 10 or 20 miles long.

4. The chance of lightning fires is not in constant proportion to the number of thunderstorm days. In Western Montana only one lightning storm out of every ten is a fire starter, whereas in Northern Idaho one storm out of every two has been productive of fires during the past few years.

5. The average lightning storm in this region brings a total of about 45 minutes of rain before and after the lightning. The average safe storm brings a total of about 50 minutes of rain before and after the lightning, whereas the average fire-starting storm brings only 39 minutes of rain.

6. When over 60 per cent of the lightning flashes are from the clouds to the ground the storm is usually a fire starter in the Northern Rockies. If, on the other hand, over 60 per cent of the lightning is from cloud to cloud, with less than 40 per cent striking the ground, then the storm is more apt to be of the non-fire-starting type.

7. Of the first discoveries 44 per cent were not made until 5 hours after the storm first appeared. Such a warning of impending danger obviously can be used to great advantage.

It is evident from the results of the study to date, that the degree of danger to be expected from a storm may be predicted by timing the period of precipitation and recording the percentage of flashes that reach the ground.

-From a report by H. T. Gisborne,
Northern Rocky Mountain For. Exp. Sta.

AS OTHERS SEE US

What's metter now, with weakly Bull? Oy, such a dryness alvays full. Why dont somebody put it in, a little stuff to make us grin? It is the true, that most our mens are learned to wield it, smarter pens. But why such grouchers should we be, stending on it, dignitie? Important things alone, on earth, will dem the Chennels of our mirth. We dont hev fun enough by half, We got it brains, yet we can laugh. There is but one way to atone, Scretch it now our funneh bone. Pep'er up or sure we will, page Locoed Luke er Ranger Bill. - Ibie Rotenrimer

WANTED - SITKA SPRUCE BULLETIN

Copies of Dept. Bulletin 1060 "Sitka Spruce" by N. L. Cary are wanted by the Pacific N. W. Forest Experiment

Station, Portland, Oregon. The stock for distribution is exhausted. Hasn't some Forest a copy or two it doesn't need?

We have tried to get extra copies for our library -- even proffered 25 cents to the Superintendent of Documents, but in vain. Perhaps the Florida or some other spruceless Forest has one it can spare. - T. T. M.

Forest Service membership contributions to the Red Cross for the year 1928 amounted to $114.

WHERE IS THE FOREST METEOROLOGIST

By A. G. Simson,
Pacific Northwest For. Exp. Sta.

Not long ago, through the Journal of Forestry, Mr. E. N. Munns made inquiry as to the whereabouts of the Forest Biologist. Perceiving there was none, he mourned the lack of such a bi-professional individual.

Now there is often mentioned the forest pathologist, the forest entomologist, the forest ecologist, the forest biologist and so on. Yet nowhere do we see mention of the forest meteorologist. In our consideration of this growing list of specialized foresters let us not forget the possibilities of the Forest Meteorologist.

The immense value of the several and sundry forestologists is too evident and too well known to need reiteration here, yet beside the infinitely greater potentialities of the forest meteorologist their value pales to relative insignificance. For after all, disease, insects, animals, and similar factors are but minor events in the life and perpetuation of the forests of the world, whereas climate is the pre-eminent influence in determining the type of forest and, in fact, even its very existence or non-existence.

The field of the forest meteorologist is the whole field of forestry. The number of foresters who are constantly being forced to dig into the mysteries of meteorology in the furtherance of their own activities is but another evidence of the need for the trained forest meteorologist. There is a field for the forest meteorologist - not just a meteorologist but a meteorologist with a sound forestry background - in learning the optimum climatic values for the various tree species and in interpreting and applying that knowledge once it is gotten. There is opportunity in reforestation where the effect of weather on seed production and where normal and extremes of light temperature and moisture are important factors, as are also snowbreak and the possibility of windthrow of seed trees. The same is true of logging where snow, floods, and erosion are important items too often ignored with unfortunate results. Problems connected with the growth of timber whether for quantity, quality, naval stores, protection or esthetic uses are fertile fields for the forest meteorologist.

The whole business of forest fire suppression and prevention is inextricably tied up with the science of meteorology. For, in the last analysis it is a matter of fuel and weather. It is for the forest meteorologist to interpret weather and climate in terms of fire hazard or fire behavior. There is a place for the forest meteorologist in forest pathology, forest entomology, and forest biology in that weather is a potent factor in aggravating or minimizing epidemics, infestations, and fluctuations of the animal population.

A sure sign of growth in human activity is the need for more and more specialists. This is equally true in anything from burglary to medicine. There was a time when the local barber handled most of the medical practice in his spare moments. Coevally the village wood cutter was probably the village forester too. Today because the sum of knowledge in either profession is far greater than the grasp of a single individual we are forced to specialize and in order to advance the specialization must in a measure keep step with the growth of knowledge. Hence, Long live the Specialist!

WANTED: A MOSES

By Emma Hyatt Morton, D. 6.

In the Service Bulletin of April 11, 1927, under the heading "Help in a Crisis" is the following:

"The tragic death of Chief Clerk White of the Lincoln emphasizes the importance of membership in the Government Employees Mutual Relief Association. White was unfortunately not a member of the Association WHICH EXISTS SOLELY FOR RELIEVING SOME OF THE BURDEN always attendant on sudden death."

Does the Association exist solely for relieving some of the burden, etc., that falls on Government Employees or is it simply a selfish organization brought to birth by the men to help each other? As it now exists, the Association is really a misnomer - it should be called "The Men's Relief Association."

Why not give the women the privilege of joining? If anyone needs relief in time of sickness or death, they and their dependents most of us have them) certainly do, even though their duties do not force them to court accident or death in the dark and fearsome forest.

"Once More - Our Women" (Service Bulletin of 7/5/27) is a colorful little article praising two women for their invaluable assistance in fire suppression. "Our Women" appreciate praise - BUT protection is far more to the point.

Some 23 years ago when the Association was formed, women were doubtless considered an impossible risk because if their flowing skirts did not trip them and cause broken what-nots, then they swept up armies of germs from the streets which caused illness - so there was no escape; too, almost any accident might befall the owner of flowing tresses. There really isn't any reason now to disbar us - all of our little foibles having gone the way of the Old Model T Fords. Why should the Men's Relief Association yearn to be archaic and cling to near stone age policies?

Objection has doubtless been made that women would call oftener on the Association for help than do men but such is not the case. A check of my immediate office associates shows that there were some three men ill for a week or more to every one woman. And even if they did ask benefits oftener than the men, (which they would not) it would not cost the men more than a few cents additional a year and there isn't a man in the Service who wouldn't gladly spend two bits or so a year to be a good sport.

Is there any way a drive could be initiated to get women admitted to membership in the Benefit Association? If so, where could the female children of Adam find a Moses to lead them into this land of Canaan (now fortified against their attacks) where the wolf can be kept from the door for only a $1 down and $1 a month?

(Although a Moses, worthy of the name, can not definitely be promised, we are happy to report that the Governing Committee of the Association has indicated that it will fully and carefully consider Miss Morton's very moving plea and later furnish the Bulletin with a summary of its deliberations and conclusions. - Ed.)

FELLOWS! We need short items of local interest for the News Letter. Send them in "pronto," please.

-- The Editor.

P.S. I'll bet there isn't a one of you that will send in a thing. - D. 5. News Letter.

A big lumberjack employed at the Savenac Nursery asked G. W. Jones for his time. When asked his reasons for quitting he said: "O ! the timber's too ____ small."

- D. 1 Bulletin.

FOREST SERVICE
U S
DEPARTMENT OF AGRICULTURE

Service Bulletin

U.S. FOREST SERVICE
(Contents Confidential)

VOL. XII. No. 2. WASHINGTON, D. C. January 9, 1928.

WHAT BRAND OF INSPECTION DO YOU LIKE?

By E. W. Tinker, D. 2

Some time back the Washington office committee meeting minutes contained a synopsis of a spirited discussion of the function of inspectors and what the most desirable practice is in doing inspection work. It's a worn subject but always an interesting one.

There seem to be two fairly divergent viewpoints with some intermediates.

1. The back to the soil element advocates inspection on the ground, out in the woods; on the trail and range. Little office inspection for them but rather these hardy pioneers plan to get out on the ranger district and find out to the last detail what makes the clock tick there.

2. The element less fond of outdoor exercise proposes to travel about picking up a bit of information here and there and spread it elsewhere for the good of the cause.

It seems the hardy pioneers are in the majority or at least one would gather their proposal to be the most popular. Most people surely would want to get on the wagon with them if they value their reputations as he men in the woods. However, leaving out sentiment, I wonder if there isn't as much danger of going too far with the back to the woods move as there is of becoming swivel chair inspectors. Thinking back over the inspectors that have inspected my own work or others work with me, I have listed six, no two of which used the same methods. The net results of the time and money expended in the way of leaving something definite and constructive behind varied in my judgment from about 15 per cent to 90 per cent. Of course, the results differed somewhat with the fundamental knowledge of the work being inspected and the vision and the ability of the inspector to impart his knowledge. However, the method used in my judgment was the important element.

Inspector A on my list landed in the office, spent a couple of hours in congenial conversation, suggested we take a little trip to a ranger station or two and in a couple of days was on his way. What he got out of it is hard to say. I didn't get anything.

Passing over inspector B, who I classify between A and C, we come to inspector C. He arrived one morning at 8 A. M. or thereabouts. At 10 A. M. this man and I were in the woods and there we stayed for about a week. He pointed out many things that were constructive and helpful. A thousand and one details were proved right or wrong and he left me with a notebook full of things that should be checked up and remedied.

In order to bring out the contrast I'll let D go by and outline the method of Mr. E. Arriving in the office one morning for a scheduled inspection we passed a pleasant hour discussing things in general. Upon being asked what he wanted to see, he informed me that he would like to go over my plans of work, the records in general and in particular my own inspection records. A day on this and we went to the Forest where one or two days were allotted to a Ranger District. Everything that was seen by Mr. E was tied to the plans for the Forest and its management and was checked against my own inspection records, with all of which he had become familiar. The relation of this and that to this or that objective was brought out. He was critical but fair, and respect for his judgment grew as we went along. Because of his knowledge of the plans and the objectives at which we were aiming he was able to tie details in to progress or lack of progress. I spent a good half day studying and meditating upon Mr. E's memorandum. In fact the more I studied the more I became impressed with the importance and size of my own job, and as the job grew the importance of the details I had overlooked magnified.

Inspection like other jobs should have its objective; it should get us somewhere. I like Mr. E's method. I could see where he was going. No man, be he ever so wise or experienced, can grasp a full conception of a job without spending unwarranted time unless he goes into plans or records. Nor do I believe an inspector, Washington or District, is justified in spending weeks on a small territory trying to worm into details and learn plans that could be grasped in a short time by occupying a chair in the office.

REINDEER MEAT--A NEW SOURCE OF FOOD

(From an article by Will C. Barnes in "The Producer", Aug. 1927.)

The reindeer have now increased to a point where it has become necessary to look to the future, providing the owners with definite individual feeding grounds and stopping further injury to the ranges. If a certain area could be allotted to each native, and care taken to see that he handled his reindeer properly, the grazing experts felt it would bring about a vast change for the better. The special grazing men sent up there to look into the matter soon learned that lichens, which are the main winter feed, are very slow of growth, taking from seven to ten years to come back on an eaten-out area.

After studying the situation carefully, the experts decided that the best plan would be to move the herds from the region they were occupying to points much farther south and east, into the great expanse of open country that lies on both sides of the Government-owned and operated railroad which runs 500 miles due north from Seward, on the Gulf of Alaska, to Fairbanks, in the interior. The herds are now being moved under Government supervision--a vast operation in itself--and the men in charge propose to locate them on separate ranges, so planned that it will be fairly easy to move the animals intended for slaughter to the railroad, where the meat can be shipped to the States.

The new ranges were all open public domain, however, subject to all our land laws, exactly as are the great areas of grazing lands in the western States yet owned by the Government. Not an acre could legally be fenced, or even allotted to any person, and others kept from using it. The public domain, as far as its grazing use goes, is a veritable No Man's Land, with no Federal laws of any kind to control its use.

In order to meet the situation, Congress was appealed to for authority to inclose these Alaskan grazing-grounds and allot them to owners of livestock. This was done during the last days of the late session of Congress, and on February 28 the President signed Senator Stanfield's bill, which authorized the Secretary of the Interior to issue licenses to applicants for grazing privileges on the public domain in Alaska, and formulate rules and regulations to cover the use of the lands. The fees are to be established by the Secretary of the Interior, and are "to be moderate and with due regard to the general economic value of the grazing preferences." So says the bill.

This is the first and only measure for control of the public-domain grazing lands that has ever passed through Congress, although at least thirty-five such bills have been introduced in the last twenty five years. It was drawn up as a general grazing measure to cover Alaska lands only, and was meant primarily to meet the needs of the Alaskan reindeer owners. The leases are to run for twenty years, and, under the law, the Eskimos and all half-breeds are to be given grazing free of all charge.

It will be interesting to watch the development of this new policy in Alaska. The Indians got their reindeer free of cost originally, and now they will get free grazing lands. Lucky natives!

Reindeer are odd creatures among grazing animals. According to Government reports they "have some of the characteristics of sheep, cattle, and horses. They flock together like sheep, but graze more like cattle, while in intelligence and activity they more nearly resemble the horse." They are ruminants, but, unlike any other ruminants, that confine themselves to plants, reindeer will eat mice, dried fish, and ground-nesting birds and their eggs--surely an odd diet for a ruminant. Like deer and elk, they shed their tremendous antlers every year, both sexes having horns.

In color they run to white and gray, many being spotted, and in every herd there are numbers that are pure white. The doe carries her fawn about seven months, and the majority of the fawns are born in April. The fawn crop averages from 50 to 60 per cent --about like our western cattle. The animals are rounded up, branded, marked, and castrated exactly as western range cattle, except that the work is all done on foot, the animals "bunching up" at the first signs of surrounding or driving them.

Besides their use in harness for sledge work, the larger animals are easily broken for riding and packing, carrying loads equal to the average pony horse.

Bears, wolves, lynxes, and eagles take considerable toll of the herds, the eagles being very fond of young fawns.

There is some foot-rot among the herds, and some trouble from flies and mosquitoes, which make life miserable for humans and animals of all kinds during the summer months in the far north. Ox-warbles are very common, as are screw-worms. According to the Government reports, however, parasites, such as tape-worms of several kinds, are the worst enemies the reindeer have, and cause heavy losses at certain times.

Reindeer meat is extremely tender, juicy, and palatable, with a color and texture equal to the best of beef, and, when properly handled, has no "gamy" flavor whatever. The animals must be shipped with the skin left on the carcass; otherwise it loses color and shrinks heavily. The average animal will dress 150 pounds, although a carcass of 300 pounds is often secured. Attempts are now being made to cross reindeer with the northern caribou, with the hope that a heavier animal may be produced. They are excellent swimmers and take to the water readily, swimming from six to ten miles to reach lands adjacent to the mainland.

MACHINERY IN FIRE SUPPRESSION WORK ON THE LASSEN

The following is an extract from the Supervisor's memorandum accompanying his annual fire report:

"At the beginning of the fire season a horse was purchased for use in fire suppression. This horse was kept at the Bogard ranger station and was at all times in readiness to be loaded on the fire truck. This animal was loaded on the truck almost every day, taken a short distance from camp, unloaded, and worked some on the Shults scraper. This was done in order that the animal would become accustomed to getting on and off the truck and hauling the scraper. The fire truck was equipped with sufficient tools for a crew of 15 men and subsistence supplies for this number of men for two days, also two days' feed for the horse. The outfit was sent as a follow-up to a good many fires but in only one instance was it necessary to use the horse and scraper. In this instance the two men who had arrived at the fire before the truck got there had to turn their attention to cutting out a snag and therefore did not put in any control line. In this case the horse was loaded, transported 15 miles and used to put a line around one-fourth acre. The total elapsed time from the time the report was received until the fire was corraled was less than one hour.

BLISTER RUST KILLS OLD GROWTH WHITE PINE

By E. C. Filler, Bureau of Entomology.

Blister rust damage to mature white pine is becoming increasingly conspicuous in a fully stocked stand of pine and spruce at Waterford, Vermont. Dead trees, dead tops, and stem cankers give convincing evidence of the seriousness of the disease. A detailed study, made during 1925-1927, in a three acre plot shows that 74.4 per cent of the 368 white pine are infected; 79.5 per cent of the diseased trees have stem cankers; and 20.5 per cent have been killed by the rust. The larger dominant trees in the 60-75 foot height class are gradually dying but succumb more slowly than the smaller pine. However, 59 per cent of the dead trees range in height from 50-75 feet, and 86 per cent of the live pine with stem cankers are in this same height class.

Adjacent to this mature stand is a 23 acre pasture type containing 79 white pine per acre, ranging from small trees to 50 years old. Blister rust damage to these pine is very severe as shown by the numerous dead and dying trees throughout the area. The rust appears to have spread from a patch of cultivated black currants RIBES NIGRUM located about 800 feet from the pasture and 1750 feet from the mature stand. As near as can be determined there were about 80 bushes in the patch when it was destroyed in 1917. Wild gooseberry bushes occurring in moist sites in the pasture probably aided in spreading the disease locally. The oldest canker was on wood of 1907 growth indicating that all of the damage has occurred within a period of about 20 years. The cultivated black currants were present for about 10 years.

Provision has been made for further study of the development of the disease in this area. The infected pines in the mature stand have been banded with white paint and arrangements for visiting the area can be made by communicating with the Office of Blister Rust Control, 408 Atlantic Ave., Boston, Mass.

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The foregoing article in regard to blister rust damage on old growth pine at Waterford, Vermont, does not overdraw the picture in the least. During the fall of 1927 I visited this pine in company with State Forester Ross of Vermont. It was an eye-opener to me, and I think it would be to any other forester who is perhaps skeptical of the damage which this disease will do to old growth timber. The trees on this area, as Mr. Filler indicates, are as high as 60 to 75 feet and the biggest of them will run 12-15 inches in diameter. Many of the larger trees have been girdled by the canker, at a considerable distance above the ground to be sure, but at the same time the damage is severe. These trees will, I am sure, practically cease growth even if not killed. The smaller trees over the lot have simply been exterminated.-C. R. T.

MARKERS FOR THE GRAVES OF OLD TIMERS?

Forest Supervisor Winn of the Coronado Forest has brought up to the Forester's office a matter which has a lot of merit. He suggests that the Forest Service and possibly the Park Service should mark the graves which Forest and Park officers frequently find along the dim trails and in the back country where old timers have been laid away under varying circumstances. Mr. Winn says:

"Aside from the Cooney grave on the Gila Forest which is well marked, I know of at least five other graves of Indian range war victims or lost prospectors on the Gila alone which have not a single marker or other means of identification which could be considered at all permanent. For most of these I have names and dates from interviews with old timers or hunting up old records."

Mr. Winn is of the opinion that there must be a number of such lonely graves on other National Forests which it is the Government's duty to mark and to that extent help out the history of those regions before the old timers who can give names and dates and incidents are lost from the picture. Mr. Winn thinks the expense covering this will not be very great and hopes Congress can be induced to make a small appropriation for carrying out the idea. It is a fine thought and one which certainly should appeal to every Forest officer, and I hope will also appeal to the powers that be to the extent that they give us sufficient funds to put it over. - W. C. B.

DISTRICT 1 IS ALSO GOING TO TRY IT

The following is taken from District Forester Morrell's circular letter to his Supervisors:

"There is real need, I am sure, to find new ways of creating interest in American Forest Week, and I should like to urge field men to go further in trying out the 'show me' trips or field-exhibits idea in preference to talks. A timber sale, plantation, recreation area, grazing unit, an old or recent burn, a forest with either young growth or mature timber, in fact almost any place in the outdoors, is suitable for a 'show me trip' and it does not require an excessive amount of time to prepare to take a group on the ground for the purpose of teaching certain specific lessons. While such trips are particularly appropriate for schools, they can be made a success with grown-ups as well. The underlying principle of this is to build up a genuine interest in the things of the forest, the trees themselves, animal life, enemies of the forest, natural laws in growth and reproduction, effects of forests on erosion, soil building, etc., as a foundation for active support in forest protection. Lacking that interest, I doubt whether real, effective help can be expected of people, and I doubt also whether such interest can be built anywhere except right in the forest.

"I sincerely hope enough trials of this will be made this year to give a cross-section view of its possibilities and to provide suggestions that will be of value to all of us. You are requested to add to your report on the Week a discussion of this topic, showing the number of such trips conducted, either by forest officers or others, the attendance, and your opinion as to the effectiveness of the method."-D.4 Daily News

THE ARIZONA BUFFALO HUNT

The Buffalo hunt in the House Rock Valley adjacent to the Kaibab (See Service Bulletin December 5, 1927) resulted in the killing of fifteen animals. The hunting privileges were distributed by lot to fifteen Arizona hunters by the State Game Warden's office, each man holding a State hunting license being given a number in the drawing. The fifteen hunters paid nothing for the Buffalo permit but were allowed the hide and head and some of the meat. The rest was sold by the State to local butchers and Buffalo steaks are being advertised in a large number of Arizona towns as a holiday delicacy.

RELATION OF WIND DIRECTION TO RAINFALL

The Jornada Range Reserve with its 18 precipitation stations distributed over an area of 194,000 acres is very probably the best equipped for the study of the local character of rainfall of any similar area in the Southwest, according to Junior Range Examiner Canfield. However, owing to the limited personnel, the station at headquarters is the only one at which it is possible to keep a daily record as to time and duration of storms, and as to the prevailing direction of wind. The following table shows the direction of wind with regard to 112 individual showers occurring between the dates of January 1, 1926, and October 1, 1927. This table shows that 67.8 per cent of the showers and 69.2 per cent of the precipitation came with prevailing wind from the East, Southeasst, and Southwest during the period covered.

Prevailing Wind Direct.	N	S	E	W	NE	NW	SE	SW
Precipitation	1.84	0.75	6.20	2.40	0.34	2.02	4.71	5.68
No. showers	8	4	19	13	3	8	25	32
Per cent Showers	7.2-	3.6	16.9	11.6	2.7	7.14	22.3	28.6
Per cent Precipitation	7.7	3.2	25.9	10.0	1.5	8.4	19.6	23.7

District 3.

SELF STARTING CIGARETTE

London, Dec. 11. - A retired business man has invented a self-lighting cigarette. A tiny disk of touch-paper is fixed to one end of the cigarette. Centered on the disk is a fragment of the igniting material about the size of a pin's head.

A gentle touch of this end of the cigarette against the prepared side of the cigarette, and the trick is done.

CLEARING THE HIGHWAY

January first has been set for the final removal of all advertising and other private signs now in existence on state highway rights of way. General instructions were issued by the Highway Commission early in the year for the banishing of all such signs. Notice was given all sign owners in this connection. In general the order has been carried out; however there are still some signs existing contrary to the Commission's action. Additional notice will be given, if necessary, and if all such signs are not taken down or removed to private property by January first, the State Highway Engineer has issued instructions for their complete removal at that time. - Magdalena, N. Mex., News.

MISS STABLER RETIRES

After more than 25 years of service, Miss Elsie B. Stabler, of the Section of Forest Measurements, Washington Office, has been placed on the retired list on account of disability. Miss Stabler had not been in good health for some time, and realizing that her health was affecting her work, she finally asked to be allowed to resign. However, considering her many years of faithful work and loyalty to the Forest Service, she has not been permitted to drop out of the picture by resigning, but instead has been placed on the retired list. It is hoped that after a long rest in which to build up her health, Miss Stabler will have many useful, happy years ahead of her.

WHAT NEXT!

Monday morning all of the lady employees of the District office appeared at their desks clad in a fandangle affair called a smock, of jade green color with a black tie and black belt. Altogether, these smocks give the ladies a very distinctive appearance and lend a real business air to the clerical force. All the bosses "hail" this new idea in dress with hearty approval. - D. 4 Daily News.

BUT THEY GET THERE JUST THE SAME

In connection with the announcement of U. S. Department Bulletin 1491, "Timber Growing and Logging Practice in the Central Hardwood Region," by C. R. Tillotson a large number of postcards have been sent out on general mailing lists. Recipients of the cards desiring copies of the bulletin were asked to return the cards to the Forest Service. One of the most recent to come in is addressed to "Mr. Tillotson's Bulletin, U. S. Dept. Agri., Washington, D. C."

WICHITA NATIONAL FOREST GAME

The Wichita National Forest and Game Preserve has sold, in the 18 months just passed, $4,642.98 in buffalo and elk, of which $4,075.92 represents buffalo sales. Both the increase in numbers of game and the financial aspects of the project are annually assuming larger proportions, as well as its public interest phases. District 2.

Service Bulletin

U.S. FOREST SERVICE
(Contents Confidential)

VOL. XII. No. 3 WASHINGTON, D. C. JANUARY 16, 1928.

LOOK OUT FOR PETER RABBIT

By Will C. Barnes

Forest rangers who are in the habit of adding to the family menu through the occasional killing of rabbits would do well to stop, look, and listen before they skin any of them with their bare hands.

For several years past, scientists have been studying a somewhat mysterious disease, which was finally traced back to persons who handled the ordinary little bunny or cottontail which forms so large a part of the game supply in many of the eastern States. Attention was recently called to this disease through the death of a naval surgeon here in Washington, who, with his brother, went hunting on Thanksgiving Day and killed half a dozen cottontails. Within five days both the brothers were seized with a mysterious ailment which was diagnosed as rabbit disease, or rabbit fever scientifically called TULAREMIA. One of the brothers died within a few days, and at this time the surviving brother is seriously ill and his recovery considered doubtful.

The U. S. Public Health Service warns everybody against skinning rabbits with the bare hands. Experiments made with virus from dressed rabbits shows that rubbed on the palms of the hands, the poison has entered the system apparently through the pores and men have become inoculated with the disease in that manner.

A single drop of liquid from the liver of a diseased rabbit placed on various parts of a live guinea pig caused the animal's death within a few days, although the body showed absolutely no breaks of any kind.

The disease in rabbits is easily recognized, the liver and spleen being covered with a multitude of small white spots about the size of a pinhead. It is absolutely safe to eat diseased rabbits that have been well cooked.

The disease was first located in ground squirrels near Tule Lake, California, hence the name tularemia.

Here are a few Don'ts by the United States Public Health Service:

Don't skin a rabbit with bare hands.

Don't shoot a rabbit that won't run from you, or appears dull or dopey.

Don't handle or skin one the dog has caught or the kids killed with clubs or stones.

If you do open one with bare hands and his liver and spleen show the characteristic white spots, wash and disinfect your hands immediately. If a few days after that you feel dull and heavy, are feverish with headaches and backaches, have a large and sore lump in each armpit you probably have tularemia. See a doctor.

ANOTHER MOSES WANTED

I have unbounded faith in, and loyalty for the Forest Service. I have infinite respect for the Department and for those who formulate the rules and outline the procedure. I am not irritated beyond endurance by these rules and regulations, and strive in my awkward way to abide by them. Yet, my faith, loyalty, and respect do not bind me to the - should I say idiosyncrasies of our procedure.

I need not be specific, each of us knows the load he carries. The excess load, may I say. Each of us knows that we could do more real forestry work with far less effort if our paths were not beset with fiscal and administrative pitfalls and snares. Pitfalls in which the unwary impales himself on the sharpened stake of "disapproval" and snares which trip our stumbling, awkward fiscal feet and which we seek to disentangle with emergency and exigency statements to our eternal mental and moral dispair and dismay. We do a day of work, a night of worry, and two days of fiscal or administrative fixing. The pyramid stands on its apex.

Cannot some administrative or executive Moses lead us from the dark Egypt of fiscal befuddlement to the promised land of common sense and good business practices?

Having, as I stated, unlimited faith in the Service, and believing implicitly that sometime, somehow, all will be well, I can only pray that the dawning of common sense, the bright sun of reason, will sometime dispel the mists of fiscal and administrative intricacies and we can go about the business of forestry unhampered.

I hope to see the day when all the splendid energy and intellect now squandering itself on accounting acrobatics will be concentrated on the unsolved, yet fundamental, problems of forestry. I long for the day when the HOI POLLOI, - the rank and file, the sweaty-browed of the Service, can rest at night untroubled by the spectres of fiscal failings and administrative accidents. - "One of the Sweaty-Browed"

"WASHINGTON SCIENCE"

By Thornton T. Munger -
Pacific Northwest For. Expt. Sta.

A recent thoughtful author in the Atlantic Monthly referred to the attitude on a certain subject of "Washington Science," and put the phrase in quotation marks. Why did he do so? Clearly to cast a slight smiling aspersion, a jocular inflection, when speaking of the science that emanates from the Government Bureaus. It makes anyone who is in public service rather hot under the color to see such references, for by and large they are not fair. But perhaps he blushes a bit too; for there must be some reason why "Washington Science" is taken lightly in some quarters.

I think it is this - the inextricable mingling of propanganda and science. The same bureaus, indeed the same individuals, who are supposed to be conducting scientific research are also carrying out campaigns to put something across. In their zeal to catch the ear of the public, to arouse it to action in some matter perhaps affecting very deeply the general welfare, the publicists make colorful use of the facts that research furnishes. The critical reader misses the sober, judicious, conservative method of statement of the true scientific writer, he perhaps detects exaggeration or suspects only a partial statement of the case and the reputation of government scientists suffers accordingly. Propaganda, or popular education, or whatever it should be called, is all right in its place, but it should not take liberties with scientific fact. If it does science is likely to degenerate into pseudo-science and lose caste with real scientists.

Any great campaign which a Government Bureau is trying to put across to the public, whether it be the timber shortage idea, flood amelioration, white pine blister rust, insect control, or any other agitation, ought to be able to stand on its own facts, without distortion, without reservation.

It is a responsibility of the scientific bureaus to take the quotation marks off of "Washington Science".

ANOTHER PETRIFIED FOREST DISCOVERED?

The Washington office has received several inquiries in regard to a petrified forest discovered by Dr. C. O. Gaither and Prof. S. I. Cade in the Big Bend region of Texas in 1926. Being unable to find any data here on this forest we wrote to Mr. R. A. Epperson of Marfa, Texas, who we understood was familiar with that region. His reply follows:

"There is in Brewster County of Texas, the remains of an extensive peterified forest. In company with Mr. George B. Sundworth I made an estimate of the largest stump that we found. Our estimate while not absolutely correct is near enough for all practical purposes. We estimated the stump to be forty feet, eight inches in diameter where it projected through the deposit of volcanic ash and about fifty feet in diameter at the roots. The roots of the tree we estimated to be at least 150 to 200 feet below the exposed part. There are quite a few other stumps exposed but none as large as the one we measured.

"The tree mentioned by Dr. Gaither in the New York Museum Biological Bulletin of Sept. 1926; I have never found but I think that Dr. Gaither found the impression left by three trees in a limestone deposit. These trees had fallen, the first knocking down the second and the two knocking down the third, thus making what now looks to have been one tree of 700 or 800 feet length.

"Just how large an area was covered by this petrified forest I have never had time to discover as it was only a side issue with me and I did not have the time necessary to make an intensive survey. The trees are about 120 miles from the railroad and two miles from the Rio Grande, close to Santa Helena and about sixteen miles from Terlingua. The Chisos Mts. lie about twenty miles to the east. Five miles west and south occurs the great fault known as the Santa Helena, one of the largest faults in Texas. The remains of sea bed are easily traced and heavily fossilized strata are found everywhere in the vicinity.

"I would very much like to see or help to make a more comprehensive survey of this locality. From a paleontologist's standpoint, I think it one of the most fertile fields for exploitation in the United States. The geological formation is one of the strangest known and I do not believe that there is any other area of similar size that offers as much inducement for research work."

If any of our readers can tell us more about this forest we should be pleased to hear from them.

TOM BRUCE IS KILLED IN NICARAGUA

Thomas C. Bruce, son of the lamented Gene S. Bruce, for twenty years expert lumberman in the Forest Service, and nephew of Grant B. Bruce, of the Branch of Engineering, was killed in action on January 2 while fighting with the United States Marines in Nicaragua. "Tom, as he was familiarly known to many in the Forest Service, had served for ten years in the Marine Corps and saw duty in France, in the United States, and for the last year in Nicaragua. While in France he took part in the battles of Belleau Woods, Chateau Thierry, St. Mihiel, and Soissons. In the Soissons battle he led the machine-gun company to its objective after the death of his captain, for which gallant action he received the Croix de Guerre. He was cited many times for distinguished bravery and was awarded the Navy War Cross by France and Belgium. He also received this decoration fron France in addition to the Croix de Guerre. While serving in Nicaragua he was decorated by that government.

"UNWELCOME GUESTS"

Most visitors that happen along at

out of the way mountain camps are assured of a cordial welcome, but this is decidedly not true if the visitors come stealthily, under the cover of darkness, and in search of food.

While the District timber survey party was camped recently in the Jawbone country on the Stanislaus a member of the crew invertently left a chunk of beef on the kitchen table over night. A bear's nose was made just for the purpose of smelling out such a delicious morsel and, of course, the meat disappeared before morning. This was the beginning of nightly raids that lasted for a week, - a hectic, sleep broken week - for, evidently, Mrs. Bruin invited not only her family but all of her friends to the party. While one prowled around the kitchen tent, another would delve into the garbage pit for delicacies. We suspended most of our food supplies well up on a high ridge pole. The next night we were awakened by a loud crash of dishes, pots, pans, etc., and sounds of a hurried exit. The bear had evidently tried to climb the light lath roll table and we found kitchen outfit and grub in a heap on the ground. Every night, any bits of food left within reach, or apparently out of reach, disappeared and dishes would be found a little way from camp, usually marked with the print of bear teeth. The last night in camp we took down our tents and made preparations for an early morning start with the packs. The food supplies were put in a pile, covered over with equipment, then canvas, and finally heavy limbs. A fire and gas lantern were left burning. A new supply of fresh meat was placed under a canvas that extended over the head of my bed. I was no more than comfortably asleep when the bear came poking her nose under that canvas - a little too close to my head for comfort. After a loud clapping of hands and shouts, she ambled off towards the cache, which she proceeded to demolish. Several times I went down to "shoo" her off, but she would only walk away a few feet and calmly look me over. Evidently a scantily clad biped was an unusual sight for her. Another few winks of sleep and I was again awakened by the now familiar "thud, thud" of her footfalls on the trail. As I jumped up and shouted, she took a sharp turn toward three sleeping figures. The trio rose up in their beds with blood curdling shouts, just in time to prevent the bear from piling over them. It was later found that earlier in the evening she had ransacked their sleeping quarters, carrying off some of Sargeant's "sheiky" stationery.

Needless to say, we were more than glad to pull out of that camp on the following morning. - O.M.E. in D. 5 News Letter.

FOREIGN FOREST FOTOS?

By E. N. Munns, Washington.

In connection with the development of the forest experiment station photograph collection, a survey was made of photographs in the Service collection taken in foreign countries. No real worthwhile photos, of any countries are available, and countries like Great Britian were notoriously absent. It was found that there were excellent photos of German and French foresters standing before this tree, on a pile of logs, or on an inspection tour; fine photos of mills and piles of logs that are as distinctly foreign as a photo of a similar mill in North Carolina or Maine; good photos of logs in no whit different than similar piles of logs from New Hampshire or Arkansas. Although there were some excellent photos showing regeneration, planting, etc., many photos did not convey the idea that other forests were different in character or composition from our own. What we should like to procure are some strikingly distinctive pictures which really show that a forest type in India is different from one in Indiana, or a forest type in Georgia (Russia) is different from one in Georgia (U. S. A.) Many American foresters have seen European or other foreign forests and perhaps have taken photos of typical forest conditions and types which are of interest from a forest tree distribution standpoint. If there are any such, the Washington Office of Forest Experiment Stations would be glad to have copies for its collection.

U. S. AND CANADA ASKED TO JOIN IN FOREST PRESERVE

Canada and the United States are to be asked to make a treaty creating an international forest preserve and wilderness pioneer monument of the Quetico Provincial Park, Ontario, and the Superior National Forest, Minnesota, the Izaak Walton League of America announced yesterday. A meeting of the league is to be held November 29, at Duluth, to further the proposal.

Seth E. Gordon, conservation director of the Waltons, has outlined the plan in a letter to Secretary of Agriculture Jardine, stating the league's request as follows:

1. Set aside the entire Rainy Lake watershed, or so much thereof as can be brought under Federal control, as an area to be given special treatment from a recreational angle.

2. Lumbering operations to be prohibited within a certain distance of all waterways in the region.

3. A program of reforestation and reconstruction of wilderness and historical values where necessary.

4. A treaty between the United States and Canada in order that the administration of both holdings may go forward under a special joint commission in so far as necessary to obtain uniformity and proper coordination.

The district is the greatest wilderness region in the world, league officials say, and is in the center of North America. It is a labyrinth of lakes, rivers, and connecting waterways and all transportation in the interior is by canoe only. - From Chicago Tribune of November 26, 1927.

THE VALUE OF A NATIONAL FOREST

What is the real value of a National Forest to any community in which it lies? The Minnesota National Forest can well serve as an example of what actually is being done and with the actual proof through the going operation show what will be done. A careful study of the Minnesota National Forest, based on the conditions already secured and by the cash income already received, shows that by 1950 when the forest should be developed to its normal capacity, it will be paying at least $120,000 a year to the Government, a large part of which will go to reduce Federal taxes. It will be paying at least $41,250 a year to the counties in cash plus more than $16,500 spent on roads or a total contribution of over 30¢ an acre per year instead of county taxes. It will be the source for the expenditure of $1,120,000 per year for the handling of its yearly timber crop and $500,000 due to its tourists and vacationists.

What does this National Forest mean to its surrounding community? The Federal Government administers the Minnesota National Forest, gives it intensive fire protection on the basis of which permanent industries can be planned which now contribute $375,000 annually to surrounding communities. In addition, the Government derives the profit of $52,500 which, as it is added to the Federal Treasury, contributes an ample share toward reducing Federal taxes and pays a tax of $13,250 annually to the counties in which the forest lies, which is used in the maintenance of local roads and schools. This is the situation two years after placing the forest under systematic management for the production of timber on a sustained yield basis. Applying values as they exist today to the producing capacity of the forest in 1950, the industries maintained by this forest will contribute $1,340,000 annually to surrounding communities. In addition to this the administration of the forest will release a profit to the Federal Government of $123,750 annually and also pay a cash contribution of $41,250 or 21¢ per acre per year to the local counties. - From a statment by Supervisor Marshall.

GATELESS AREAS

The obtaining of fenced sample plots for range study purposes was made a definite project and placed in the District Program for 1924. The instructions were that these plots should be 1/4 acre in size, and that standard has been carried or assumed in the program of the following years. Enclosures have been constructed varying from a rod square to two acres or more. It is impracticable to establish a standard uniform size for such plots because of the varying conditions on areas where they are placed. The object should be to select the plots in such places as will be representative of large adjacent areas, and their size should be such as to include a fair sample of the species, types, or other conditions about which it is desired to obtain information. Usually a chain square is a very practical sized plot, is comparatively cheap to fence, and will give the desired data under most conditions. The size and also the shape of the enclosure should be varied from a chain square as may be needed to meet the above mentioned requirements. Of particular importance, however, is the selection of the exact spot that will be fenced. These plots are of the most convincing evidence of what a range will do and the degree of recovery it will make. It is particularly fortunate when the plots can be found near well travelled highways, as they serve as a constant reminder to the stockmen of the value of proper grazing. - District 3.

NEW MOVIES FOR FOREST PROTECTION

The Canadian Forestry Association uses motion picture films very largely in all educational campaigns. A few years ago foreign films dealing with forest conservation or forest fire themes were purchased and adapted to Canadian requirements.

This year, however, the association, working in cooperation with the Ontario Government Motion Picture Bureau, staged its first original movie, "Forest Heritage."

During August and September, Mr. G. M. Dallyn, the assistant manager of the association, traveled many thousands of miles preparing for the filming of three new motion picture subjects which will be available for the late fall and the winter tours and for the new campaign of 1928.

One of the films will present graphically the serious facts of fire ranging and will bring the public to a better appreciation of the work of forest guardians and how dependent they are upon the cooperation of the camper, tourist, settler, and other classes.

Another film, entitled "The Two Sons of Monsieur Dubois," will present the story of right and wrong colonization, as shown in the experience of a single family in Quebec. It will show the relationship of land settlement to forestry, and entirely in story form, without labored moralizing or obivious propaganda. - The Illustrated Canadian Forest and Outdoors, October 1927.

RESEARCH IN INDUSTRY

Research should absorb from 10 to 30 per cent of the annual earnings of an industry, if it is to survive under the changes that are taking place in modern life, according to Dr. L. V. Redman, Director of Research of the Bakelite Corporation.

"There is no possibility for modern industry to maintain itself without research," Dr. Redman told representatives of Chemical Industries at their annual meeting in New York.

"Research has no respect for any existing condition. It cares little what happens to traditional industry if improvement is to result. No industry today can consider itself free from necessary vigilance of constant research." - From "Information."

Service Bulletin

U.S. FOREST SERVICE
(Contents Confidential)

VOL. XII. No. 4. WASHINGTON, D. C. JANUARY 23, 1928.

PROMOTIONS

The Administrative Assistant appears in the doorway of the office of the Acting Forester, his arms burdened with numerous bundles of neatly arranged form letters. His bearing is one of almost religious solemnity; that of a high priest of the Gods of Morale and Efficiency about to bestow upon the votaries of his Gods the tangible rewards of their faith and devotion. "Here", he announces, "are the January One Promotions."

The Acting Forester refills his fountain pen and shoves aside the mound of impressive appearing documents, red-tagged and otherwise, that await his scrutiny and signature. January One promotions clearly take precedence over all other matters; in the scale of priorities they have no rival. In the scale of interest, both human and official, they outrank even the most absorbing personnel case or the report upon the most lucrative and gratifying appropriation bill. There is a peculiar appeal in their precise arrangement in groups by units of Service organization and in their abundant numbers.

Again and again the official fountain pen twists and writhes in the turns and convolutions that go to make up the Acting Forester's signature. And as it moves, the Acting Forester realizes that he is signing not alone a batch of cold, formal official documents but actually a most absorbing set of official citations, of records of loyalty, devotion, and of work well and faithfully done. For at the bottom of each sheet there is a brief paragraph which sets forth the reasons why the particular promotion should be made and which, so long as the records of the Department shall endure, will faithfully record each appointee's contributions to constructive progress and social welfare.

It has been the Acting Forester's extreme good fortune to have visited, at one time or another and in some degree, probably two-thirds of the National Forests and thus to have met many of the men and women who have done their part in creating the record of constructive accomplishment, of honest, efficient service, and of unquestioned integrity which the Forest Service now so abundandantly enjoys. And so the formal records, in many cases, meant more to him than empty names; they inspired memories of many earnest conferences, of many trips, of many little Ranger Stations tucked away in remote corners, of many striking pieces of work or examples of tact, diplomacy, and foresight all leading to the advancement of Service plans and objectives. He could visualize the quiet pride or suppressed excitement with which the ultimate announcements would be displayed to admiring mates or sons and daughters as visible evidence that Dad is making the grade and still going strong, or in other cases that Daughter or Mother is doing so.

And then the mind turns to the processes whereby these fortunate ones have had their achievments recognized and rewarded. In the peaceful activities of the Forest Service the opportunity for spectacular action over and above the call of duty occurs less frequently that in war; the determination of those who are entitled to citation and recognition is more complicated and difficult. It is interesting to figure out how it all comes about.

Perhaps it starts when the Supervisor tells the visiting A.D.F. "I want you to size up Ranger Smith on the Three Creeks District, he's sure a go-getter." Then follows an enthusiatic recital of Ranger Smith's successes in fire protection or timber sales or grazing or improvement work or public relations or all of them combined. Perhaps, on the other hand, the A.D.F. waxes enthusiastic over what he has found in Smith's district or office or in the adjacent towns. Perhaps the Super. may grow eloquent over the way his clerk has taken burdens off his shoulders or wrinkles out of his furrowed brow, or possibly the Chief of Accounts may announce the discovery of a new clerical constellation. Frequently, of course, the discovery of merit is less spectacular than that and consists of a glowing recital in the periodic efficiency report.

Then comes the second stage, the periodic debate in District Offices as to who shall be promoted and who shall not. The occupants of the seats of the mighty assemble in solemn conclave and deliberate and commune over blanket sized summary sheets and piles of individual records. Approval and dissent fly back and forth. Absent potentates are notified by letter, or even by wire, of pending proposals with urgent solicitations of their views and recommendations. Out of all the turmoil and discussion order finally emerges and large packages of mail go forth on their way to the office of the Forester.

Here the third stage occurs. First there is a careful checking of dates and grades and such like. Then comes the preparation of large comparative summary sheets in the delicate script of the Administrative Assistant in Operation. One wonders how he retains his bland smile and jocular disposition under such a burden. Then comes more debates, in the Service committee on personnel. That committee of course, is too far away to attempt to pass on the merits of specific promotions on the Forests but must consider them en masse in the matter of classifications, quotas and Personnel Classification Board limitations. To the more important members of the District offices, however, it applies the same processes of critical scrutiny which previously they themselves had applied to the men and women in the field. No one escapes that process. Probably the Secretary of Agriculture applies it to the Forester himself. From all this, totals are worked out and compared with what the Secretary has said he would stand for, requisite changes in classifications are analized and, if possible, adjusted, sometimes after considerable expenditures of persuasive oratory upon the P.C.B. or the Civil Service Commission by the Administrative Assistant in Operation, and when the impossibilities have all been determined the proposals are adjusted accordingly. Finally, the Secretary's general O.K. is secured and overburdened typewriters begin to hammer out the little sheets upon which each promotee's rank, age, and previous condition of servitude is set forth in painful detail. It is these sheets that give the Acting Forester a severe attack of writer's cramp and a pleasant excursion into the fields of memory.

ROGERS TO LECTURE IN EASTERN SCHOOLS

Supervisor David N. Rogers of the Plumas left Washington on January 16 to visit eleven Forest Schools in eastern and mid-western universities, delivering three or four lectures to the students at each school. Rogers will tell the students how the Plumas National Forest is administered and protected and what opportunities there are for embryo foresters to get into the work as "professionals."

All the Forest Schools on his itinerary have expressed a keen desire to have Mr. Rogers meet with and address the students, in the belief that it will give them a broader insight into the nature of the Government's forestry work. Mr. Rogers spent a week in the Washington headquarters preparing for his tour. His itinierary will be as follows: Pennsylvania State Forest School, Mont Alto, Pa.; Pennsylvania State College, State College, Pa.; Yale University School of Forestry, New Haven, Conn.; University of New Hampshire, College of Agriculture, Durham, N. H.; University of Maine, Orono, Maine; New York State College of Forestry, Syracuse, N. Y.; Cornell University, Ithaca, N. Y.; School of Forestry and Conservation, University of Michigan, Ann Arbor, Mich.; Michigan State College of Agriculture and Applied Science, East Lansing, Mich.; Iowa State College of Agriculture, Ames, Iowa; University of Minnesota, St. Paul, Minn.

THE TRUTH ABOUT ALASKA

In commenting on an article about Alaska written by Colonel Wilds P. Richardson, which appeared in the January issue of the Atlantic Monthly, the New York Times of January 8 says in part:

"President Harding saw with his own eyes that what was holding the Territory of Alaska back was not so much either extreme conservation policies or Government neglect, but inexorable economic law: the exhaustion of the placer mines, world-wide shift in the value of the gold which was the Territory's great mineral resource, high labor costs. Economists, too, have shown the difficulty of establishing a permanent civilization on the precious metals alone. Alaska suffers from what they would call an aggravated case of marginal utility. Her oil will be exploited when other supplies are low; her wood pulp will be sold in larger volume when the forests more accessibile to the Atlantic seaboard are exhausted; her reindeer will came into the market in larger quantities when conditions allow of more profitable competition. She will come into her own some day, but only with the march of natural economic law.

"If man cannot force the hand of fate in Alaska, he can at least hope to guide it in some measure and take full advantage of its decrees. Already Secretary Hoover, with the help of Congress, has taken steps to restore the fisheries, the Territory's greatest resource. The Forestry Bureau is actively seeking the legitimate exploitation of the Territory's rich forests. It speaks well for the development of the Territory as a whole that its commerce is on the increase. Colonel Richardson advocates a larger measure of home rule, and he thinks that there is still room for relaxation of various hampering restrictions. But he is penetrating enough to see that the Territory's material resources do not stand alone. 'Scenery is Alaska's one imperishable asset,' he writes, and what man or woman who has traversed the inland passage or seen Mount McKinley rise like a sovereign out of the clouds will choose to disagree with him?"

FOUR BIRDS NAILED WITH ONE STONE

By Emma H. Morton, D. 6.

Most of us consider we have filled our quota if we kill two birds with one stone, but this time the ultimate was well-nigh surpassed. It happened like this: Bush Osborne and Fred Brundage of the District Office and sundry members of the Deschutes personnel felt the urge to test the effectiveness of a tractor and specialized plow (built by the Caterpillar Tractor Co. of San Leandro, California), in trenching a blaze; so on November 4, they set a fire in the Fort Rock country, Deschutes Forest, which when viewed through the eye of a movie camera bore all the earmarks of a genuine catastrophe or holocaust, as the case may be. While unseen Forest officers herded the fire in its proper course, the caterpillar trench-digging demonstration was conducted in a spectacular and eminently successful manner by its sponsors. Results: (1) the motion picture operators were happy because they obtained a splendid picture which they sold to the Pathe News and the Caterpillar Tractor Co.; (2) the Tractor people are happy and have written the District Office a letter of thanks stating the picture is just what they have yearned for more than a year to get; (3) Bush Osborne rejoices because a new tool has been discovered to facilitate fire suppression - and (4) PR is glad because the Service will obtain excellent educational publicity through the distribution of this feature movie both by the Orgeon Pictorial News Service and Pathe! And they all lived happily ever after.

(Greetings to lady contributors. Let us have more of them. Ed.)

A D-4 FIELD EXHIBIT

By David A. Arrivee, Targhee.

The public does not go to the Targhee timber sales, so the Targhee timber sales go to the public.

A one-acre field exhibit representing the extensive areas that are being cut over for ties has been centrally located beside the Yellowstone Highway in the heart of the Targhee Forest. The Highway winds for 30 or 40 miles through a long, level stretch of Lodgepole pine and is travelled by some 80,000 people each season, most of them tourists coming from every State in the Union on their way to or from the Yellowstone Park.

The travellers come upon this small tie sale from around a slight curve, where the timber is tall and dense and crowds the road. A row of conspicuous white signs set on a line of posts appear suddendly against the dark background of the forest. The signs are about three rods apart and are placed at right-angles to the road in order that they may be read from a fast approaching car. A row of them faces one way, and a row faces the other way, in order that they may be read from cars coming from both directions.

With striking brevity the signs demand answers to the questions, "How Old Are These Trees?", "How Fast Do they Grow?", "When Should Trees Be Harvested?", and the last one states -- "Here is The Answer". At the center is a large two-way sign that designates the exhibit a "Forest Service Sale Area" and informs the public that the area has been left in condition for maximum timber production.

The products cut from the area are piled beside the road. Within the exhibit informational signs on trees and posts explain the utilization obtained by cutting low stumps, why and where the brush is piled and when it will be burned, what causes catface, the prevalence of disease in old trees, what caused the death of a tree, why the mature trees should be cut, why trees are suppressed and how the growing stock should be spared for tie production. Fastened to a board on the trunk of a tree are cross sections of a dominant and of a suppressed tree that tell a graphic story of the great advantage it is to a forest to remove the trees that are through growing and to thin and space the immature trees for rapid growth. A sign beside an adjacent dense pole stand denotes its age and explains the cause of its stagnated condition, and the remedy.

The trees to be cut on this little sale area were marked as if it were part of one of the regular large sale areas and the other work was done by Tie Hacks just as it is done in the remote parts of the Forest. Since sanitation has now become a regular part of sales practice, it will be added to this exhibit by the girdling of the unmerchantable diseased and defective trees and of undesirable growing stock.

This PR exhibit will undoubtedly do its bit, as a supplement to personal contact, toward molding public sentiment both for forests and for forestry. It is a response to definite public curiosity expressed at the camp grounds, at the resorts, in town and on the road by innumerable questions, of which the headliner is - "Just what do you Rangers do?". It will, perhaps, help to refute the prevalent idea that cutting timber mangles the forest and destroyes its beauty. Perhaps it will also help to strangle the occasional effort to stop Targhee timber sales, on the part of zealous, but insufficiently informed, advocates of plain forests who learned their lesson from that relic of pre-conservation days, the poem that starts -- "Woodman spare that tree," which has been interpreted to mean - all those trees.

AUSTRALIAN VISITOR

A. R. Trist, a research forester from Australia, visited the Northeastern Forest Experiment Station at Amherst, Mass. recently. Mr. Trist will be in the United States for two years and has been sent by the Australian Government to study the organization of the forest experiment stations and the methods employed in silvical research in America.

NOTES ON RANGE MANAGEMENT

In carrying forward the Service-wide program of management plan work, for the orderly development and conservative use of the grazing resources of some units on all of the National Forests have been developed during the past year and in cooperation with the stockmen have been applied.

In some regions where topographic features do not provide natural barriers to separate classes of stock and units of range it has been necessary to plan extensive drift-fence construction. On four National Forests in northern Arizona this contemplates the construction of 1185 miles of boundary and division fences. During the last three years steady progress has been made in building fences under this program and already about 500 miles of fences have been constructed.

Basic information regarding the range resources on about 2,920,000 acres in the National Forests was systematically secured by systematic reconnaissance during 1927 bringing the total area covered by such surveys to approximately 22,200,000 acres. The data thus secured will from the basis for thorough-going range management plans for the areas covered.

FOREST SERVICE SAVES MONEY BY PROMPT PAYMENTS

By prompt payment of bills and thus taking advantage of the discounts offered, the Forest Service was able to save a total of $16,443 in its expenditures during the fiscal year ended June 30, 1927.

A total of $16,625 was offered in discounts for prompt payment during the fiscal year, and the Service was able to take advantage of approximately 99 per cent of the total offered. The comparatively small loss of $182 in discounts was caused principally by the fiscal duties being subordinated to fire suppression and other emergency work and by the isolation of some of the Forest officers and purchases at remote places, where delays in transmission of mails were unavoidable, rendering it impossible to accomplish payment within the discount period.

Although the discounts offered amounted to about 80 per cent more than in 1926, the amount lost through delayed payments in the last fiscal year was about the same as for the preceding year, $182, the percentage of discounts taken in 1927 being somewhat higher than in 1926.

This saving for the fiscal year 1927 amounted to an average of about $90 for each forest, station, or other unit, and abundantly compensates the Service for the slight extra effort necessary in expediting payments.

THE SCHOOL OF THE WOODS

How to thin stands of loblolly pine on the eastern shore of Maryland was recently shown to farmers and farmers' boys by Mr. F. B. Trenk, Extension Forester of the Maryland College of Agriculture. On a bitter cold day in early December, according to a report by W. R. Mattoon who accompanied Mr. Trenk, 20 farmers and 21 high school boys came out to two woods demonstration meetings, respectively. Again the next day with a cold wind from the northwest 12 men and youths were out Saturday morning. Following a discussion of the principles and methods of improvement thinning in pines, the people present entered a contest using a score card to record their judgement as to the trees to come out and those to be left. At each of the first two meetings a total of 70 trees were tagged for consideration and at the last 40 trees. The winners in each contest received a new ax and the seconds a new hatchet - put up by a local dealer and the local farm organization.

Popular interest in timber growing - particularly loblolly pine - runs high. This is largely due to the many tracts of tall, straight pines commercially ripe, the good market, and high value of pine on the stump.

IT CAN BE DONE

"During the past season only 62 acres of National Forest within the boundaries of the Siskiyou Forest were destroyed by fire. The National Forest consists of 1,669,522 acres. This record is all the more remarkable when we consider that more than 71,000 persons used these same forests for a playground this summer.

"Such a record could not have been brought about by any other means than full cooperation by the people, who use the forests, and the Forest Service. It is a wonderful example of what can be accomplished by such cooperation.

"Through the exercise of care with fire, the forests have been preserved for us for another year as a great playground. Next summer there will be no new unsightly burned-off areas. Young trees will have gained a foothold in areas previously burned. In a few years, with the same care shown in 1927, young forests will be springing up through natural reforestation.

"It means much to us, this great field of recreation. It brings in visitors from all parts of the country to see our green-clad mountains and clear mountain streams. They come here to fish, hunt, and camp. They spend money in southern Oregon. And there are few of the people of the community who do not find the forests a wonderful place to spend their week-ends.

"Preservation of merchantable timber is another factor, which makes for future prosperity of southern Oregon. Every dollar's worth of timber destroyed by fire is a direct loss to this section. Every young tree destroyed means that future income has been wasted.

"That was indeed a wonderful record established in 1927 but it could have been better. Of the 29 fires, 18 were man-caused, either by pure carelessness, or by an incendiary. Man-caused fires may be eliminated. Lets' make 1928 another record year. It can be done." (Editorial - Grants Pass Ore., Courier of Oct. 29, 1927).

RETIREMENT IN D. 4

Forest Ranger John Barnard of the Fishlake Forest was 62 years of age on January 4, 1928, and has decided to retire from the Service under the Retirement Act of May 22, 1920. He entered the Service on November 1, 1906, as Assistant Forest Ranger, and has since been employed continuously on the Salina District with the exception of two years. One year he had charge of construction work on the Ephraim-Orangeville Road on the Manti Forest, and one year he supervised the construction work on the Heber-Fruitland Road and Kanas-Stockmore Road on the Uinta and Wasatch Forests.

Ranger Barnard, on account of his wide experience and knowledge of the livestock industry and his familiarity with practically all of the Fishlake range, having assisted in its survey, did much to bring about the adjustments necessary under Government control. He has been noted for his sound and practical judgement concerning grazing and administrative questions and for his knowledge of road construction work.

Since entering the Service he has worked under six supervisors on the Fishlake Forest, one supervisor on the Manti, one on the Uinta, and one on the Wasatch. During his long period of service, he has witnessed the numerous changes, and assisted in the solution of many of the grazing and administrative problems which has contributed materially to the progress and development of the communities adjacent to the Fishlake Division. In fact, Ranger Barnard can be considered one of the pioneers of the Forest Service in Central Utah.

Barnard is retiring from the position of Forest Ranger with the best wishes of the Service, and of the Forest users on this Forest. - D. 4 Daily News

CLEARING ALONG YELLOWSTONE HIGHWAY

The Bureau of Public Roads has done a thoroughly commendable piece of work on a 15 mile section of the Yellowstone Highway passing through a heavily timbered part of the Targhee Forest. As part of the construction cost, the right of way was cleared of all debris for a distance of from 100 to 200 feet back from the edges of the road.

Not only the waste material in stumps, rocks, and logs, incident to the road work, but also the down trees, old logs, and other unsightly natural objects were pulled back into the timber out of sight. The forest on both sides presents a clean, neat appearance to the great number of tourists who travel that way each season. - S. W. S.

FOR MANY ARE CALLED PICTURES BUT FEW ARE CHOSEN

The Washington office of PR reviewed, during 1927, a total of 6410 prints sent in by our myriad of photographers and of that number we selected 288 for the Service Collection, which is approximately four and one-half per cent of the number submitted.

Of this 6410 it is quite probable that the major part are really used in one way or another by District offices, Supervisors' offices, and Rangers, even though they have not been selected for the Service collection, and their cost is not so heavy that it need cause worry.

The thing that does worry the writer (he has to select for the collection) about this deluge of prints is that some of the authors, and District office and Experiment Station officials feel that since the SUBJECT is a good one the print should go in the Service collection against the time when they might want a copy, and they seem unconcerned if the negative is, say, a 2½x3½ because, say they, it can easily be enlarged, and they lose no sleep if the photography is mediocre, which it often is, for they say, Ranger Bill snapped it on Lost Creek and we've been needing a picture like this, and since this is the best we have let's keep it.

That way, quite obviously, is the way to chaos in our photograph collection.

After a great deal of consideration of the whole matter, we have just about reached the conclusion that the only way to secure the kind of pictures we need is to detail a compentent photographer to the job, and give him a detailed description of the kind and number of pictures wanted. This has been done in several districts thus far and the results indicate that such a policy will prove to be sound.

District 7 has even gone so far as to call in all cameras and designate special men to get pictures on this planned basis.

The Washington photograph collection is being revised this winter, and our picture policy discussed and we shall probably have some news for you in the not too distant future. In the meantime why not try out the "plan" basis of getting pictures, assigning your best photographer to the job. - H.R.K.

A NEW FOREST TREE GUIDE

"Forest Trees of Oklahoma" a pocket manual, published by the Oklahoma Forest

Commission, is the fourteenth "sister in the cooperative forest tree guide family." The bulk of the text was prepared by W. R. Mattoon in the Branch of Public Relations, and State Forester George R. Phillips is the coauthor. Altogether 74 species of trees are described, and illustrated from original drawings by Mrs. A. E. Hoyle of the Forest Service. The trees which are here described for the first time in the tree guide series are the nut pine or pinon, shin oak, and mesquite.

On the basis of this tree guide a letter has recently been received from State Forester Siecke of Texas asking about the terms of cooperation and the estimated cost of a similar guide for that State.

THE SENATOR LOOKS AT CHINA

(From an article by Hon. Hiram Bingham in World's Work for January, 1928)

"The Japanese Government is essentially paternalistic. In Korea I was immediately struck by the acres and acres of new forests. I learned that millions of dollars have been and are being spent in efforts at reforestation. No one who has seen the bare hills of southern and central China will deny that afforestation would bring more happiness to China than almost any other one thing. It would utilize the barren hills. It would prevent many of the terrible floods. It would enormously increase the comfort of the people in dire need of fire wood. And yet almost the only groves of trees are in cemeteries and on lands belonging to temples.

"In the Province of Shansi, the enlightened Governor Yen has made a splendid beginning and has ordered the planting of millions of trees. If he could only be sure of peace and be protected against the danger of aggressive military neighbors, he would I am sure, justify his reputation as a model Governor and make Shansi a model province," which is his sincere desire. Shansi is the only province in China where one sees such evidence of governmental interest in the public welfare as is shown by free public libraries, museums, normal schools, lecture halls, road building, universal elementary education, and forestation."

TEXAS NEEDS PR WORK

Since the inauguration of forest protection activities, educational work has been considered of first importance. Educational work rightly directed and performed will do more than any other line of effort towards crystallizing public sentiment and securing cooperation so that the same care with fire will be exercised in the woods as in the home. Less than one per cent of the fires in East Texas are caused by lightning. Practically all fires are man-caused and therefore preventable. The best time to fight a fire is before it starts and that is why so much stress has been given educational work along fire prevention lines. For years it was the common custom in East Texas to annually burn the woods and range supposedly to improve natural grazing conditions. Careful investigations have definitely proven that fires lower instead of build up the carrying capacity of the range. East Texas stockmen have learned to protect the range from fire and, with comparatively few exceptions, they are now giving most excellent cooperation in fire prevention. This change in custom has been brought about through a long process of educational effort. The educational equipment consists of a portable moving picture machine and generator, suitable forestry films and a Ford roadster equipped for transporting the entire outfit. During the year numerous forestry moving picture shows were given in connection with fire prevention talks. One man was employed temporarily who devoted his entire time to this work and systematically covered many of the patrol districts. These shows were put on at piney woods schools, churches and rural gatherings and were everywhere enthusiastically received. (11th Annual Report, Texas Forest Service.) D. 3. Daily Bulletin.

FOREST SERVICE U S DEPARTMENT OF AGRICULTURE

Service Bulletin

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AT THE HOUSE FLOOD CONTROL HEARINGS

By C. E. Randall, Washington.

The Forest Service had its innings before the House of Representatives Committee of Flood Control Wednesday night and Thursday morning (January 18 and 19), when Associate Forester E. A. Sherman and Director Raphael Zon of the Lake States Forest Experiment Station appeared to present the cause of forestry as a factor in prevention of floods in the Mississippi River.

Under the chairmanship of Congressman Reid of Illinois, the House Flood Control Committee has been holding hearings night and day since the present session of Congress got under way, in preparation for the drafting of a flood control bill to be presented to Congress. Forestry up to this week had not had a very prominent place in the picture, but it was felt that the subject was ably presented and impressed upon the members of the Committee when the Forest Service's turn came.

Mr. Sherman outlined the outstanding facts of his recent report on the "Protection Forests of the Mississippi River Watershed and Their Influence on Flood Prevention" and presented the recommendations which grew out of the Forest Service flood survey. He emphasized that forest extension was not to be considered as taking the place of engineering works in any measure for flood control, but was important as a supplementary measure to back up those works.

The Committee was pleasantly surprised by Mr. Sherman's stating that he did not recommend that they include in their budget any item for forestry as a flood control measure. He stated, however, that if the recommendations of the Senate Select Committee on Reforestation and the program as approved by Congress and authorized in the Clarke-McNary law were actually put into effect by adequate appropriations, the condition of the Mississippi watershed would be greatly improved, the flood levels materially reduced, and the factors of safety of levees and other engineering works would be greatly strengthened, all this without any direct charge against flood control or prevention. All he asked was an understanding upon the part of the Flood Committee that such improvements of the Mississippi watershed would be of substantial benefit in the solution of their problem and that they ask the Agricultural Committee to give earnest consideration to legislation which would carry an adequate forestry program actually into effect.

Data on the amount of rainfall intercepted by forests and the amounts of run-off from forested and from bare lands were presented by Dr. Zon. He emphasized the importance of forest cover on hilly and mountainous land rather than on level land, from the standpoint of water conservation. Dr. Zon said it was a matter of surprise to him that the influence of forests upon streamflow had been lost sight of in the consideration of plans for controlling the Mississippi. He told how forests and water are administered as a unit in many other countries, and how the relationship of forests to water had been recognized in this country in the Weeks law and earlier legislation. Building costly engineering structures in the lower reaches of the river without taking into account the value of protection forests on the watersheds, Dr. Zon said, was paying "millions for tribute but not one cent for defense." He stressed the desirability of including foresters and soil experts in a reorganized Mississippi River Commission, as well as engineers.

Chairman Reid of the Flood Control Committee has announced that he would conclude the hearings within a few days, when the committee will settle down to the task of drafting its bill.

ANOTHER TRUE BEAR STORY

One very small brown bear at the head of Desert Creek on the Mono - where bear have never been known before. Ranger Allen made the discovery while riding across the range, leading his pack horse. Said bear suddenly confronted the outfit at about 30 paces. The surprise to all concerned was mutual, and all decided instantly that they had business of importance in some other locality. The rode horse starter first and left Allen sitting on the ground too much out of breath to get a fair start, but as there was no official starter to recall entries, the race was on. The bear made the first half down canyon in nothing flat; the pack horse decided a straight line was the shortest way home, made a good start but was soon winded as his selection of route was nearly straight up; the rode horse used more judgment and, as he did not care to crowd the bear on the turns, jumped the track and departed for any old place, scattering cantinas and other equipment over considerable territory, and also leaving tracks that were hard to follow. Allen said that he wasn't scared, only startled, and that he had considerable difficulty in gathering up his outfit. The supposition is that he made a good race, considering the start, for he arrived at Lobdel Lake at 8 P M. still very much out of breath. - H. W. A. Mono, D. 5 News Letter.

SHADES OF THE WOODSHED LINGER

The Daily Bulletin of November 28 goes on at quite some length about the "friendly touch of wood" states the Coconino News, and mentions the railroad tie in that respect. I, myself, prefer the highway, and notice that a great many ankle tourists do, also. Railroad ties are not spaced exactly right for a friendly touch at each and every step. I also remember, as a kid, the touch of the shingle, made of wood, which was not at all friendly. - D. 3 Daily Bulletin.

ADMINISTRATION AS A TECHNICAL ART

By Ward Shepard, Washington.

Is administration a science? If it is, why isn't the Forest Service producing administrative "experts"? Keplinger, in raising these questions in his article in the SERVICE BULLETIN of January 3, has put his finger on a vital spot.

If anyone doubts that administration is a science, involving a difficult technique and imposing an exacting intellectual discipline, he is out of touch with the best developments in modern industry and in modern professional education. Our slowness in recognizing administration as a science goes back to a familiar, optimistic fallacy of American democracy - namely, that, roughly speaking, anyone can do anything. In the period of rapid industrial expansion after the Civil War it was indeed necessary that men who had no better training than that afforded by the farm and the country school should take charge of and direct the amazing expansion of industrial America. This pioneer stage is well past, but the fallacy that the enthusiastic amateur is equal to any task still persists in many directions. Our legislative machinery is still largely run by lawyers rather than by experts in engineering, legislation, industry, and administration. The spoils system still persists in many places.

In the more highly organized industries a significant process has been going on during the past two decades. The old style "captains of industry" have pretty well moved off the stage, and even the baronial mansions they built on Fifth Avenue have melted away. The ownership of industry has been democratized and at the same time its management has passed into the hands of administrative and engineering experts. The development of administration as a science and an expert art has gone on apace. The latest step in the recognition of business as a profession was the recent gift of $5,000,000 to Harvard University by Mr. George T. Baker as an endowment of the Harvard School of Business Administration.

The Forest Service can not afford to neglect the development of scientific administration any more than it can afford to neglect the development of silviculture. It is time that the artificial distinction between the so-called "technical" and "practical" men should be ended. It has already done too much mischief and created too many false standards of comparison. The real distinction with which any organization is confronted is that between the expert and the amateur. Especially gifted men acquire expertness through experience, but any man can increase his expertness by formal training whether in school or self-imposed. It would be a tragic and fatal error to assume that it is lack of training that makes men "practical"! We need all the expertness and skill we can get whether in trail building or silviculture, educational work, or administration.

It is not enough that scientific administration be merely recognized in the abstract. It is essential that we build up formal, organized ways and means not only of determining what good administration is but of imparting its principles and practices to successive generations of Forest Service administrators. We can not achieve this goal without paying the price that is exacted in putting any profession on a scientific basis, namely, research and education. There is no easy road to this goal. The intuition and "hunch" of the experienced administrator, conferences and "round table" discussions all have their value, but they are not the whole answer. It must be recognized that administration is just as truly a field for careful research as is silviculture or chemistry. We must attack more of our administrative problems by the organized, systematic, persistent methods of research such as Loveridge is using in the ranger district study and such as Show and Kotok used a few years ago in their intensive analysis of fire plans in the D. 5 Forests.

And then we must develop staff schools in which administrators are trained in the higher and more difficult reaches of administration by doing administrative research themselves and by studying and applying the results of research by others. Here too we must avoid falling into the trap of looking for a "philosopher's stone" that will answer our riddles. We can't just comfortably take over a ready-made set of abstract "principles of administration" and apply them to our problems. We must dig into myriads of individual problems and find the answers and evolve our own principles. One useful step in the program of administrative research and education would be the collection of brief written reports on individual cases or problems of administration that have been successfully dealt with, in order that we may build up a body of recorded precedents. Much unorganized material of this sort is in our files, and still more in the heads of administrators. It needs sifting and analyzing. Such cases, accumulated over a period of years, would be of priceless value in developing the art of administration.

This too must be paid for. But if we want to go forward with scientific administration we must deliberately invest time and money in the process. No price is too high to pay for the training of first-grade administrators, for upon them more than on any other group depend the vitality and effectiveness of the Forest Service.

PANNING THE FOREST SERVICE

(Editorial in New Mexico Conservationist for December, 1927)

Recently one Arthur M. Baum, erstwhile Supervisor of the Kootenai National Forest, broke forth in the pages of the OUTLOOK with a series of articles in which he charges the Forest Service with all the sins of commission and omission that any one organization could find time to be guilty of in a lifetime.

Despite the fact that most of Mr. Baum's allegations could easily have been disproven by reference to certain public, and even widely distributed documents, and regardless of the fact that though he had been a member of the Forest Service some 14 years he apparently did not discover the depths of its iniquity until after he had resigned - by request - the OUTLOOK enthusiastically took him to its editorial bosom and advocated a complete reorganization of the Bureau, from cabin-boy to skipper.

As might have been expected, the articles met with more amusement than serious consideration, and in a recent letter to Congressman Clarence McGregor, Colonel Greeley, Chief of the Forest Service, quite thoroughly explodes Mr. Baum's charges. And - characteristics of the man - he does it with a patience and forbearance worthy of a Job.

The Forest Service was conceived in strife and born in battle. During the early days of its existence its conservation program enjoyed a popularity among certain interests comparable to that of a horse thief in Arizona. Many and varied were the attempts to sink it - without a trace, if possible, but very, very deep in any event. For a long time it was forced to build with one hand and hold the enemy at bay with the other.

That it built exceeding well there are few left to deny. It stands today a shining example of what Government Bureaus may be, but seldom are. It is not "bureaucratic," inefficient, and self-satisfied, as Mr. Baum charges, unless agrressiveness and an unwillingness to be coerced by private interests be called bureaucratic; a failure to attain absolute perfection in the few years of its existence be called inefficiency; and pride in good work well done be called self-satisfaction.

In these latter years the public has come to have a real regard for the Forest Service, and confidence in both its integrity and judgment. It has won this respect through the exercise of horse-sense, honesty, and industry; through its willingness to stand up and fight for the conservation of natural resources, whether it be trees or wildlife. Attacks against it have become far less frequent, and infinitely less successful. It is significant that this last one could find no better weapons than the statements of a disgruntled ex-official.

It is to be hoped that the OUTLOOK has learned an important lesson from the encounter, to-wit: That not since the time of Samson has the jaw-bone of an ass been a very deadly weapon.

APPRECIATION

"The Office of the late
George B. Sudworth,
U. S. Forest Service.
Washington, D. C.

Gentlemen:

The enclosed new Handbook for Boy Scouts is one in the preparation of which you had an important part. On behalf of the boys and men of the Boy Scouts of America, we want to thank you most earnestly. The book has been very enthusiastically welcomed, in which fact we may all take pleasure. That these our contributions may eventuate in boy character and good citizenship, is I know the hope of all of us.

Cordially,
BOY SCOUTS OF AMERICA
By H. W. Hurt
Editor of the Handbooks"

SUPERVISOR G. E. MARSHALL RETIRES

By C. J. Stahl, D. 2.

A quarter-century of service is a record few of us can boast of. "Ed", as he was called from Mr. Pinchot down to the messenger boys, is the only Supervisor the Minnesota has known. January 16 begins a new era. A common reference was "before the settlement of the Indians' rights". Now it will be "since the time of Marshall".

No other Forest in the District has presented so many and complex problems of administration. Created and developed under special Acts of Congress, it required a manager possessed of the versatility of a Philadelphia lawyer. From the very outset there was opposition to federal administration: the land should be opened to agricultural settlement; then, it was held to be of greater value to the public as a National Park; and lastly, it was taken from the Indian and should rightly be restored to him to do with as he chose. Now that the old boat is floating on an even keel, Marshall seeks other worlds to conquer.

His first work consisted of directing a crew of Land Examiners and cruisers of the General Land Office, appraising land of the Chippewa Indians, which included what is now the Minnesota Forest. The Forest has had his directing hand from its inception. But for his capacity for winning public support of a meritorious project, it would long since have passed into history.

Here is a man who helped create and build a National Forest. Nourished from a protoplasm, he saw it grow into a full-fledged, going concern. Last year he directed the expenditure of $44,071 for Salaries, G.E., F.R.D., Planting, and other special schedules, and secured a revenue of $47,272.

With the protective improvements in, the Forest opened up for development, the nucleus of a new Forest set out, and the business on a paying basis, it no longer provides the zest required to hold Marshall's interest. It is some compensation to know that he is not being retired, but rather is going out into active business and will henceforth be identified with the Weyerhauser Timber Company in Minnesota where he will have in charge, among other duties, cooperation with the Forest Service.

The best wishes of all his associates go with him in his new job.

MEDICINE BOW SPARK ARRESTER

Supervisor Hilton of the Medicine Bow has devised an effective and good-looking spark arrester, which is widely used on ranger stations and summer homes in the Medicine Bow. We are printing a sketch of it in this issue.

ASBESTOS FORESTS?

In 1925 an ususually hot fire burned more than a thousand acres in the Chiricahuas. A visit to the area in November of this year discloses sprouts from completely consumed silver leaf oaks, dead and badly injured western yellow pine - and Apache pine of all ages and sizes to all appearances unharmed. Apache pine seedlings which must have been right down in the bunch grass at the time of the fire show no signs of injury and have made normal height growth since. Large trees have charred bark but no fire scars or other signs of injury. (Growth was not measured). Mature Apache pines show no injury where similar neighboring western yellows are "bleeding and unsightly. Apache pine (or Arizona longleaf) is quite similar to southern longleaf which is noted among all pines for its resistance to fire. Apparently it is a worthy relative. The long, coarse needles of the seedling burn and char - but protect the terminal bud in their midst. In addition the bark is either exceedingly insulating or the cambium later is wonderfully fire resistant - District 3.

IT IS TOLD IN ARKANSAS

By P. Echinata

A. Chief of a great Federal Bureau.
B. Chief of Eastern Division, same bureau.
C. Local executive in charge of land unit handled by same bureau.
D. Staff assistant, local force.
E. Ditto.

The Time.

1926 Spring. Roads deeply rutted and in early morning hard with frost.

The Place.

On a State Highway in Arkansas bordered with Shortleaf Pine.

The Action.

B. and C. in a model T truck doing about 30 en route to the woods. An ancient casing on left front wheel. "B" driving and also engaged in earnest conversation with seatmate "C".

"D" riding a board placed across truck bed facing rear.

Large rock in wheel track on steep down grade, had been used no doubt by native to "chock" the wagon on the uphill pull and ease the strain on the mules.

The left front casing strikes this rock and lets go like a French "75". "Good Lord, what was that" cries "B" while "D" flies off the board in the rear and gracefully flops in the ditch. "Didn't you see that rock?" says "C" and starts hunting for the tools.

"A" and "E" following closely in another museum piece draw up and render sympathy while a new tire is pressed into service and soon the caravan presses onward toward the tall uncut.

Another mile on an up-grade curve, deeply rutted in the center. "B" driving had settled into this pair of ruts. Near the top comes a Dodge sedan, bright, shiny, new, doing, Oh! say, 35 or 40, from the opposite direction and in the same pair of ruts. "B" tries to pull out and over but "Henry" prefers the ruts. "B" then slows down and stops, but the Dodge wilfully rushes on, jumps the ruts just in time to avoid collision and plows through between "B" and the bank, finally stopping with fenders bruised and tempers ruffled.

"A" and "E" pull up again. Everyone out and the argument starts, drags on and ends without casualties on either side.

Two miles more "B" and "C" still in the lead meet another model T this one driven by a friend of "C" who calls a cheery greeting, becomes curious about "C"s companion, fails to watch the road, and crashes head on into "A" and "E" in the second official Ford. Another casing ruined, another fender shot.

Wearily "A" climbs out of the Ford and drearily says "Mr. "C", can you tell me where I can rent a nice, gentle horse?"

THE SUBTLE LINE-O-TYPE-IST

Road and Weather Report - A local paper.

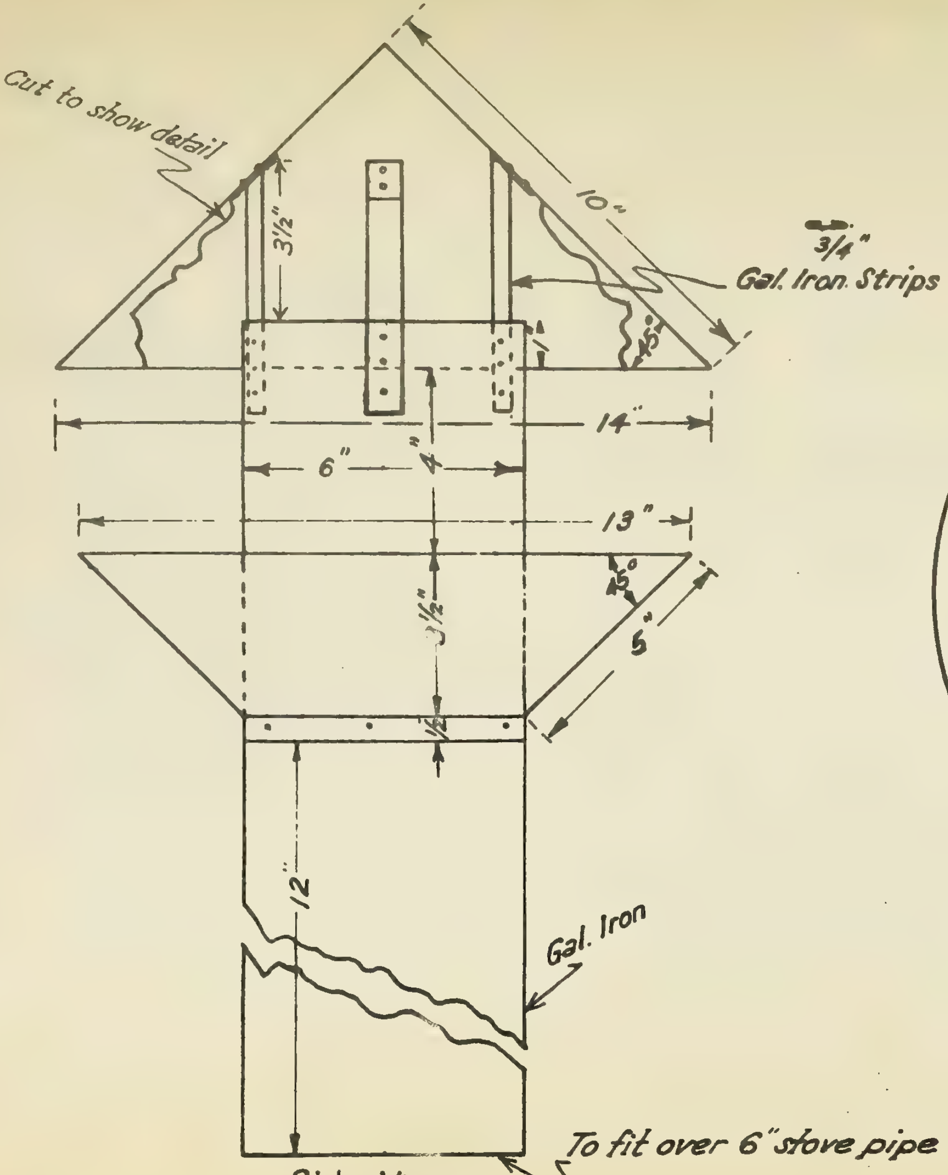
Albuquerque,	Good, Cloudy.
Socorro,	Good, Cloudy
Silver City,	Good, Clear
Deming,	oGod, Cloudy.

D-2
U S Dept of Agriculture
Forest Service

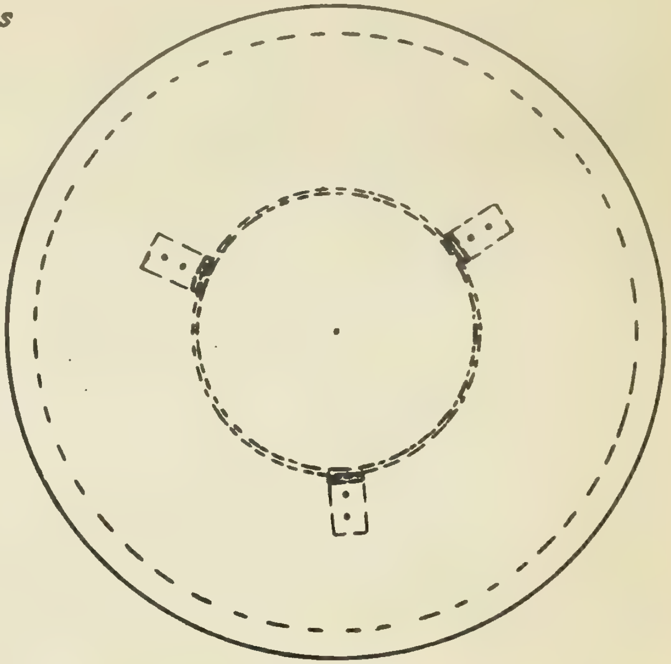
CHIMNEY CAP

Scale 1/4"=1"

(SPARK ARRESTER)


Cut to show detail
10"
3/4"
Gal. Iron Strips
3½"
1"
45°
14"
6"
4"
13"
45°
3½"
5"
½"
12"
Gal. Iron
To fit over 6" stove pipe

Side View



Top View

Plan O-3
C.C.S. 3-8-27.

VISUAL EDUCATION

Six and one-half million people saw Forest Service exhibits and motion pictures last year.

The number viewing our exhibits, and this includes only those who viewed them and not the total number attending fairs, was 3,868,000. Of this number 671,000 were in the Districts and 3,197,000 in the East outside of District 7.

The number viewing our motion pictures was 2,700,000, divided as follows: Districts 1,179,536, outside of Districts 1,520,464. The number of films distributed was 838, and 398 of these were shown by the various Districts, the remainder from Washington.

A total of 161 exhibits of Forest Service material were made as against 75 in 1926.

With 6,500,000 people EXPOSED in contagion, we are justified in assuming that some of them must have CAUGHT a touch of forestry. - H.R.K.

WESTERN FORESTRY & CONSERVATION ASSOCIATION MEETING

On February 20-22, in Tacoma, Washington, will be held the Western Forestry & Conservation Association's annual Forest Management Conference of private and public Pacific Coast forest interests.

Monday, February 20, will be devoted to action by standing committees on questions of cooperative fire work, equipment, methods, educational projects, etc.

The general sessions, February 21 and 22, will deal with:

The Approaching Government Study of Forest Taxation in the Pacific Northwest.
Influences of Public Timber Disposal on Private Forest Management.
Reforestation by Lumbermen
Gaps in Cooperative Fire Prevention under the Clarke-McNary Law.
Systematizing the Publishing of Fire News
Insurance Requirements of Logging Camps
Prospects of Timber Insurance
Forest Insect and Disease Situations
Slash Hazard Control
Forest Research Work

INSECT DAMAGE TO FOREST LESS IN 1927

The annual insect report recently compiled and forwarded to the Forester is more optimistic then it was for the two previous years except for the epidemic of Dendroctonus barberi on the Prescott. The Ips infestation which threatened to reach epidemic proportions on several forests has apparently subsided as have also the attacks of the Ellopia defoliator and the Dendroctonus engelmanni on the Lincoln. It is believed that drought conditions influenced greatly the increase of insect damage in 1925 and 1926. The epidemic on the Prescott is now being combated by an organized crew and will probably be well under control by spring. - District 3.

FROM A RANGER'S DIARY

"Both eyes shut up on me this A. M. (Poison Oak). Finally got one open wide enough to take on a little food. The dope I put on my face for the poison oak has nearly ruined me. Head and jaws swelled up like I'd been on green feed all winter, (sick leave eight hours) and yet a guy in Denver in advertising a correspondence course for the position of Forest Ranger states "pleasant work, all you do is hunt, trap and fish." Yea, verily, and there was a man name Ananias." (Ranger Joseph Hand, Tonto) - D. 3 Daily Bulletin.

Service Bulletin
U.S. FOREST SERVICE
(Contents Confidential)

VOL. XII. No. 6. WASHINGTON, D. C. FEBRUARY 6, 1928.

LUCRETIUS ON FOREST FIRES

By Robert Marshall,
Northern Rocky Mt. For. Exp. Sta.

(Clipped from D. 1 Bulletin)

Lucretius, or Titus Lucretius Carus, as he would have signed his 858's, or Luke, as his friends probably called him - anyway, this Lucretius should have been fire-chief of the Forest Service of the Roman Republic. Only there wasn't a Forest Service, so unfortunately he had to waste his talents on mere poetry and philosophy.

Despite all the information on the cause of forest fires gathered through the sweat of countless rangers during the twentieth century A.D., there is little to change in Lucretius's rating of the principal causes of forest fires in the first century B.C. "The conflagrations burned the forest trees among the mighty mountains," he wrote in his DE RERUM NATURA, "caused by a bolt of lightning from the sky, or else because men warring in the woodlands had hurled fire on their foes, or yet because - - - -men desired to clear rich fields and turn the countryside to pasturelands, or slay the wild beasts and thrive upon the spoils."

Which is almost precisely the same as the major sources of forest fires on the National Forests during the ten-year period from 1916 through 1925. These were:

(1) lightning;
(2) hunters, campers, and smokers (listed by Lucretius as hunters);
(3) incendiaries (which the warring soldiers certainly were);
(4) railroads (which Luke can hardly be blamed for skipping); and
(5) brush burning (including clearing fields for agriculture.)

Lucretius must have been on the fire line at frequent blow-ups, for he was familiar with that roar made by crowning trees which, even when heard several miles away, requires the raising of the voice for ordinary conversation. "Nor is there aught," he remarks, "that the crackling flame consumes with sound more terrible to man than Delphic laurel."

But I do not want to write a Parson Weymes biography of my hero, so it is only fair to mention one place where this famous old Roman failed to show the proper scientific exactness. At any rate modern foresters would be inclined to sniff quite violently at one cause of conflagrations which Lucretius describes, namely crown friction. Yes, that's right, the heat generated by the rubbing of one tree top against another in a heavy windstorm. "But often it happens on high hills," he asseverated "that neighboring tops of lofty trees are rubbed one against the other, smote by the blustering south winds, till all ablaze with bursting flower of flame."

No doubt the fire fighters of his day had the same tendency to relax when the "push" wasn't around as have the present day inebriates from Spokane. Therefore, it seems probable that Lucretius wrote the following as a bit of propaganda to scare the Roman trench builders out of their daily siestas.

"To certain trees there has been given so dolorous a shade that often they gender achings of the head, if one but be beneath, outstretched on the sward."

AN ORGANIC ACT FOR FOREST RESEARCH

(Clipped from D. 6 Bulletin)

PURPOSE. On December 7, 1927, Congressman McSweeney of Ohio introduced in the House and Senator McNary of Oregon introduced in the Senate a bill which if passed will have a far-reaching effect on forestry. Its purpose is to correlate all branches of federal research that have to do with forests, to recognize by organic legislation the several agencies doing research, and to set up a program for financing these agencies. The bill makes no appropriations but merely authorizes certain annual appropriations.

STATUS. This forest research bill is another step in the progressive federal legislative program which is gradually building a national forest policy. It is, in a way, a follow up of the Clarke-McNary Act. It is the outgrowth of the report of a special committee of the Society of American Foresters and is sponsored by the National Forestry Program Committee. A large number of representative commercial bodies, industrial associations, as well as professional foresters everywhere have endorsed it.

WHAT THE BILL COVERS.

1. It directs the Secretary of Agriculture to do all kinds of forest research (which are specifically detailed in the bill).

2. It is an enabling act for the eleven forest experiment stations and authorizes $1,000,000 annually for them.

3. It provides for study of the diseases of trees and decays of wood products by the B.P.I., and suggests $250,000 annual appropriation.

4. It authorizes a like amount for the investigation of forest insects by the Bureau of Entomology.

5. It provides for the study of forest animals and birds ($150,000) by the Biological Survey.

6. It authorizes $50,000 for fire-weather studies by the Weather Bureau.

7. Range research would be provided for to a limit of $275,000.

8. For the Forest Products Laboratory work a possible $1,000,000 a year is authorized, plus $50,000 extra for study of foreign forest products.

9. For a comprehensive survey of timber requirements and supplies it authorizes $250,000 a year with a maximum of $3,000,000.

10. Economic studies would be provided for to a limit of $250,000.

WHAT THE BILL WOULD DO FOR THE PACIFIC NORTHWEST.

In recognition of its importance as a forest region the Pacific Northwest could expect to have allocated for its use a large portion of each of these appropriations. Thus forest research could be put on a substantial basis comparable to agricultural research, and proportional to the value of the forest resources to be studied. It would be possible to make the much needed inventory of our forest resources, to make more rapid progress in the control of pests and diseases, to improve the fire-weather warning service, to learn the growth and yield of all our types, to improve on their management, and to further the economic manufacture and use of wood.

WANTED: A MOSES

(Clipped from D. 6 Bulletin)

It is my opinion that "A Confession of Faith - and Hope!", published in the Service Bulletin of January 16, has called forth more fervent "amens" than any other article published in many moons. The writer of that article asks for a Moses to lead us out of the paper-work wilderness into which we have been placed. We did not reach this wilderness overnight, so to speak, as did the tribes of Israel, but by insidious stages. Why do we remain in this unprofitable wilderness of increasing discomfort? The best guess that I can make is that the true condition has not come to the attention of the Forester, who is the only Moses that can lead us out.

It has happened in history that those in authority dismissed as unimportant certain expressions of discontent that reached their ears, and saw their mistake when it was too late. Of course, such a thing can not happen to the Forest Service, but it is a fact that there is a deep and growing discontent among the ordinary rank and file because so much energy and so large a part of the appropriation dollar are being dissipated on paper work. A higher-up might not find the discontent if he went a-searching for it. In spite of immunity promises, but few care to bear news the king or court might not wish to hear.

The author of "A Confession of Faith" confined his remarks to fiscal matters, presumably for lack of space. He could well have gone further. Not only is the Forest Service dog being vigorously wagged by its fiscal tail, but he is further being driven into a state of rabies by branch fleas drawing upon his energies for multitudinous and voluminous reports of transient, little, or no value.

It is said that ex-President Taft, being asked for the best method of reducing weight, replied, "Stop eating." What a happy and profitable day it will be for the Forest Service when the Forester (the Moses called for) turns his attention to the paper-work evil which is lowering the morale of the Forest Service! What a day it will be when he issues an edict to FA to stop its search for the cost of the Holy Grail and a ukase to Branch Chiefs to cut their paper requirements at least fifty per cent!

NORTH AMERICAN BEAVER RANCH

By G. E. Marshall, Minnesota.

(Clipped from D. 2 Bulletin)

This ranch managed by George L. Ramsey, is located on State highway No. 2, two miles west of Sylvan, Minnesota, and comprises about 23 acres of land, all of which is fenced. The location appears to be ideal. Pillager Creek, a clear cold stream, traverses the area, the land rising on both sides from the creek bottom, which is more or less flooded. The highland is covered with mixed hardwoods, aspen predominating. Some of the aspen has been cut by the beaver but Mr. Ramsey hauls in material for feeding so that the trees in the inclosure may be spared. As long as ample food is furnished the beaver seldom cut trees inside.

Last winter Mr. Ramsey carried over 80 beaver. These consumed 15 hayrack loads of aspen brush, 100 bushels of carrots, and 50 bushels of apples. When small aspen brush is used all of it is eaten but if too large only the bark is used and the wood is wasted.

Beaver mature at 4 years old and breed the second year. Average stock for breeding purposes is worth $400 per pair. Some of the beaver that are penned in are as tame as kittens and I was told that those not penned come up in the evening to be fed without showing any fear at all. As I was at the farm on a warm afternoon I saw but two of the beaver; one a so-called black, 3 years old, and one three months old and very dark. These two have been selected on account of their color for breeding purposes and were fine looking animals.

Experiments have shown that beaver can be raised on dry land but the neat pelts come from those that have had access to water at all times.

Mr. Ramsey has made a study of wild life for years and started his ranch in 1924 with one pair of local wild stock. He has since purchased 34 more, Minnesota wild stock, has sold some for breeding purposes, and estimates that he now has about 130 head on hand.

I have seen various kinds of fur farms but this appeared to me to be the best of any of them. The beaver are living in as near their natural condition as can be and were apparently thriving. There is no question about the market and Mr. Ramsey appears to have solved the question of raising them.

THIS AND THAT.

By S. E. Doering, Superior.

(Clipped from D. 2 Bulletin)

Tinkanen hautenen puunka,
  lankinen, taaviatiason, ruuska;
Ojalla schlesnick muhvich,
  hernesmaa maki golobich.
Skala koval coagliato,
  dejak fenske colombo;
Gianotti kayute tonkovich
  klobucher nankervis markovitch.
Grayhek lysovetz slogar,
  gouze huhta eck oberstar.

The above is not one of my crude attempts at poetry. It's merely a list of some of my district users and cooperators. For the benefit of any of the boys who may hereinafter be assigned to this neck of the woods I have compiled a dictionary of the most common words and terms used in the region. One hour of study of this should enable the hopeful embryo to fend fairly well hereabouts.

CANOE: Frail craft used in precarious navigation. Light, speedy, and whimsical on water (only.) Readily upsets.

PORTAGE: A trail through the woods used in carrying canoes and pack sacks around rapids. A place for brawn, (only).

PACK-SACK: A commodious affair resembling a pannier and used for the same purpose, but on a different kind of jackass.

HUSKIE: A fish-eating, sled-pulling dog of generous proportions. Fights flies in summer and sleeps in snowbanks in winter.

PORCUPINE: A wood-gnawing, grease-loving creature with needle-like hair. A very few non-descript individuals have escaped from Minnesota.

NO-SEE-UM: A small (very) energetic fly. Astoundingly prolific and exceedingly loyal to his job.

MOSQUITO: A man loving animal out doing the No-see-um at every turn and in every particular. A few (only) miniature, mal-nurtured, specimens have escaped from Minnesota.

MUSKEAG: A mossy, sponge-like substance peculiarly retentive of water, wet, dampness, moisture, rain, etc. Very soft to the feet. Hinders traveling somewhat. Spruce trees sometimes grow in it; moose frequently stick their heads into it.

SWAMP: A place too wet for muskeag.

MINNESOTA: Indian word meaning swamp.

POOSTA: Finnish grunt meaning section corner.

SNOOSE: Slang for snuff. Minnesotans are greatly addicted to it.

(NB. Al Hamel doesn't want it to leak out)

ALKIE: Boiled moonshine. A Finnish product. Will finish anything.

COFFEE ROYAL: A Finnish blend of coffee and alki. Greatly heightens exuberance and increases the momentum of verbosity.

WEBS: (Snowshoes): An oblong instrument used for elevating lumber jacks and timber cruisers to a higher plane.

FINN: Slang for Finlander--a cutter of pulp.

PULP: Not different from coal prop.

SAWDUST WASTE

(Clipped from D. 3 Bulletin)

A waste of nine million tons of sawdust and seventeen million tons of wood each year is disclosed in a survey of the mills where sawdust is burned or allowed to be wasted in one form or another, according to the Lumber Manufacturer and Dealer. This great mountain of wood dust is enough to produce six hundred and eight million gallons of ethyl alcohol, making sweeping compounds to clean all the floors of the globe, or create enough explosives to blast out ten Panama Canals.

FIREPROOFING LUMBER

(Clipped from D. 3 Bulletin)

A successful process for fireproofing lumber has been discovered, according to The Timberman. The process involves the impregnation of lumber with a secret non-poisonous chemical solution after which it is kiln dried for a period not exceeding 48 hours. The treated wood retains its natural color and can be worked without injury to machines or tools. It accepts paints, varnish, etc., and does not warp. The process has also been tried on various kinds of wall boards and the article states that it appears to increase their tensile strength and sound deadening qualities. The process has been tested by the Columbia University Laboratory and has been found acceptable in New York for use in the interior construction of fire proofed skyscrapers.

CHANGING CHOSEN

(Clipped from D. 5 News Letter)

The hills of Chosen look out across the harbor at Fusan to the Islands of Japan; they fringe the banks of the mighty Yalu River where Manchuria begins.

If there be a symbol for the Korea of the past, the present and the promised future, it is her hills. Crowned with mighty forests in the days of Korea's greatness, they were ruthlessly stripped of their wealth through the years of official corruption until, barren and helpless, the prey to storm and rain, they menaced the fields of rice and barley in the valleys that so sorely needed protection from flood and drought.

But the hills of Korea are changing, and in that change lies the story of what Korea is doing and of Korea's true problem. It is not a story of war, of politics, of diplomacy. It is a story of rice and wheat, of silk and coal and cotton, of irrigation and scientific farming and of afforestation.

The hills of Korea, barren, helpless, unprotected, a menace rather than a guardian so short a time ago, are changing. Tiny seedlings are being set out all over their wind-swept nakedness. Already in many places these seedlings have had a few years' growth, and their roots are binding the sand, the dust, into firmer, more solid soil that will not wash down into the valleys to cover the rice fields with the coming of great storms, but that will catch and hold the water and perform the service of a reservoir storing the moisture for the future.

Ten years ago the hills of Korea seemed to be the bald pate of an old man who had run his course and was but waiting patiently to die. Covered with their scrub pines, they look now like the close-cropped head of a young schoolboy, and with the change in the hills there is coming a change in Korean psychology, and the Korean is coming to look out on the world no longer as a bald old man, but as a young schoolboy, with all of the schoolboy's ambition and energy. And they are fortunate indeed that their suzerain nation, The Empire of Japan, sees the Korean problem as an economic rather than a political, military, or diplomatic one. --Frank H. Hedges in Overseas Travel Magazine.

HAVE YOU SEEN THE NEW FORD?

By Ress Phillips, D. 2

(Clipped from D. 2 Bulletin)

Highway Engineers have long been interested in overcoming the corrugation or "washboard" condition of main traveled roads, and their failure to provide a cure has probably resulted in the hard surfacing of many miles of road where gravel would have served the purpose if a smooth, easy riding surface could have been maintained. The following article is quoted from the Engineering News Record of December 8.

"It was long suspected and is now almost demonstrated (by experiments carried out by the Engineering Experiment Station of the State College of Washington) that the blame for washboarding of roads rests mainly on the army of small light cars with their rapid rate of spring vibration. Softness of springs in relation to weights of body and axle has narrow limitations in this type of car. But hydraulic dampers, as applied to the new Ford, can effectively control the destructive vibrations."

"If this device proves as effective as it is capable of being, the effect on highways will be of remarkable importance. Destruction of surface will be reduced, maintenance costs will be decreased, and at the same time thousands of miles of road will automatically be transformed so that they will give riding comfort and pleasure instead of making the traveler miserable at best."

"Not only the direct gain is to be considered, but also its indirect effect in giving the gravel road surface a new status. That with reasonable maintenance attention this type of surface is excellent as to service and lowest in annual cost for light traffic volume has long been recognized, but many miles of it have nevertheless been replaced by hard surfacing because it roughed up so quickly through wash-boarding. When this effect becomes unimportant, the gravel road may hold its position more securely. And, incidentally, proper construction and maintenance methods for gravel will engage newly awakened interest."

In addition to adding to the pleasure and convenience of the owners of Ford cars, the change in the design may indirectly, affect the owners of other cars as well as the pocketbooks of the taxpayers.

DUDE RANCHERS COMBINE

By R. T. Ferguson, D. 1.

(Clipped from D. 1 Bulletin)

A meeting of particular interest to the Forest Service was recently held in Billings, Montana. It was the second annual convention of the Dude Ranchers' Association. The territory represented by those present included Montana, Wyoming, and Idaho. There was an excellent attendance and the two days' session was filled with interesting and lively discussions including several inspirational talks by members of the Association and by others who are interested in the success of the industry.

Among the speakers on the program, besides Governor J. E. Erickson of Montana and Governor Frank C. Emerson of Wyoming, were Mr. A. B. Smith, Passenger Traffic Manager of the N. P.; Mr. A. Cotsworth, Jr., Passenger Traffic Manager of the Burlington; Mr. H. F. McLaury, Advertising Manager of the Burlington; Mr. M. M. Goodsill, General Passenger Agent of the N. P.; Mr. Joe Cahill, Manager of the Wyoming Branch of Commerce and Industry; Mr. Craighead, representative of the Publicity Department of the State of Montana; in addition, representatives from the National Park Service, U. S. Forest Service, Fox News, and the Photographic Department of the N. P.

One of the principal objects of the meeting was to enable the Dude Ranch proprietors to become personally acquainted with the State officers and officials of the railroads and to learn how each one might be of greater service to the other. The sessions were quite informal and were generally of the "round table" style. Assistance by advertising experts, and help in planning letters to get the business, preparation of booklets, securing motion pictures, outlining advertising campaigns, etc., were all freely and cordially given and constructively criticized.

If there are any skeptics in our own organization as to the ultimate success of recreation within the national forests, it would have been minimized had said skeptics been in attendance at this meeting. The attitude of the railroads is: "recreation is big business, it's here, let's go after it and let's get it."

The meeting terminated with a banquet with a menu of elk steak accompanied by all the trimmings.

Among the important resolutions adopted by the Association was one to the effect that the Board of Directors would cooperate with the Forest Service in settling any disputes which might arise, in much the same way as devised by Reg. G-21 in the National Forest Manual.

The Forest Supervisors of the Shoshone, Big Horn, and Beartooth Forests were selected as honorary members of the Association.

EXCESSIVE GRAZING HARMFUL TO REFORESTATION

(Clipped from D. 3 Bulletin)

A very interesting article appears in the January issue of the Scientific Monthly entitled "Grazing and Forests" by Dr. Charles Wendell Townsend. The article says in part that, Charles Darwin in his "Voyage of the Beagle" shows very clearly that domestic animals introduced in the island of St. Helena have destroyed the forests there. He was struck by the green pastures, the hedge rows, and the plantations of imported trees, in other words by "the English or rather Welsh character of the scenery." Two plains containing no less than two thousand acres "in former times were covered with wood, and were therefore called 'The Great Wood'". As late as the year 1716 there were many trees, but in 1724 the old trees had mostly fallen; and as goats and hogs had been suffered to range about, all the young trees had been killed." He adds: "It is also said that in 1709 there were quantities of dead trees in Sandy Bay, this place is now (1836) so utterly desert, that nothing but so well attested an account could have made me believe that they could ever have grown there. The fact that the goats and hogs destroyed all the young trees as they sprang up; and that in the course of time the old ones, which were safe from their attacks, perished from age, seems clearly to be made out." Darwin also says: "It is very interesting thus to find that the arrival of animals at St. Helena in 1501, did not change the whole aspect of the island, until a period of two hundred and twenty years had elapsed." Dr. Townsend says further that "this very slowness of the process serves to mask its destructive character. The life of man is comparatively short and he sees the forest trees unharmed by the animals, so he is loath to believe that they are factors in deforested regions." Dr. Townsend cites not only St. Helena, but other places such as Palestine, Syria, and Greece, with the remark that "wherever grazing has been carried on for centuries, the land is generally desolate." Dr. Townsend concludes his article by saying: "We must see to it that our existing National Forests do not become grassy and barren washes by the insidious action over a long period of time of the gentle sheep."

(We suggest sets of lantern slides for our P. R. men. Ed.)

IS REGULATION A-8 FAIR TO THE STOCKMAN?

By H. C. Hilton, Medicine Bow.

(Clipped from D. 2 Bulletin)

While it is an established policy that most Forest Service records are subject to inspection because of their business nature, this sometimes reacts unfairly to the stockmen. In Wyoming, no particular effort is made on the part of local assessors to count or otherwise secure an accurate record of cattle or sheep owned by the stockmen. A general practice has developed, at least among the stockmen of southeastern Wyoming, of reporting to the local assessor about 75 per cent of the total number of stock owned. This is a sort of unwritten law among them and they usually keep a check on one another to see that this percentage is held to by the different stockmen.

Under our policies, one assessor may come to the local Supervisor's office and consult both card records and folders of the various permittees. Data is secured on this basis and assessment levied on the full 100 per cent of stock owned by permittees who happen to graze on the National Forest. If this is done, their taxes are raised 25 per cent above the stockmen who graze on the outside. In addition to that, it encourages our permittees to withhold knowledge of the full number from us, when we would prefer honest dealings in all details of range management.

As a general practice, it is believed that Forest officers may properly call the assessor's attention to the fact that if Forest Service records are used for a few owners who happen to be permittees, an unfairness results because these men will pay taxes on a basis of complete ownership while the others will pay but on 75 per cent. Is not the Service, however, likely to lose, rather than to gain by giving out information in reference to stock ownership?

SOLVING A KNOTTY PROBLEM

(Clipped from D. 3 Bulletin)

Knots and knot holes in boards are now removed by a machine at the rate of one per minute, according to a report in the March issue of The Timberman. The board is clamped on the machine table over a revolving spindle that removes the knot and cuts threads around the opening. Another operation cuts and threads a clear piece of lumber and inserts it into the hole with or without a spray of glue. Only one person, according to the report, is required to operate the machine. It is stated that the machine has been patented and will be offered to lumbermen "who have knotty problems". The machine was designed and built under the direction of a subsidiary of a cheese company who used it in making boxes for transporting cheese. (Sure it was not used for the holes in the cheese? Ed.)

"IT PAYS TO ADVERTISE"

(Clipped from D. 7 Digest)

The "Gulf Coast Lumberman" of January 14 remarked editorially that 1928 must be a merchandising year if lumbermen expect to sell their product. The editor writes: "The lumbermen stand in groups today and ask each other - 'What kind of a market will we have in 1928?" He tells the lumber manufacturer that the lumber substitute man is not asking that question. He goes out and creates his own market. Directly the editor says: "Every foot the manufacturers of substitutes for lumber have sold was sold in a market created by their own selling skill, and every foot they sell in the future will be sold in the same way. When they quit creating demand, demand for their products will cease." It occurs to us that the lumbermen have received a worth-while tip. Who has ever seen any salesmanship upon the part of Appalachian manufacturers displayed in current journals and popular magazines? It is only within very recent years that the lumber industry has advertised at all. Lumber is in the same category today as many other useful and valuable commodities. "The profit will go this year to him who advertises his goods to best advantage. The days of automatic profits are gone; the day of salesmanship is with us." So also says a representative of the Bureau of Commerce. As true as this statement is in regard to selling lumber, just so does it fit our position as holders of marketable stumpage. The public is not going to automatically seek us. We are living in a selling era. If we are going to solve the problem of maintaining an equilibrium of timber sale receipts, we too, should make NINETEEN HUNDRED AND TWENTY EIGHT a merchandising year. We have to have an organized selling campaign under way not later than March, 1929, if we fail to get to it in 1928.

A statement of interest to foresters generally is contained in the prospectus sheet issued by an American Bonding Company to support a bond issue for the Free State of Prussia. Dr. Hoepker-Aschoff, Prussian Finance Minister in commenting on the state properties of the State of Prussia, makes the statement that the MOST IMPORTANT of the INCOME PRODUCING ENTERPRISES of the state are Prussia's forests, which comprises 5,928,000 acres and have an estimated value of $1,000,000,000.-D. 4 Daily News.

Service Bulletin

U.S. FOREST SERVICE
(Contents Confidential)

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THE BUDGET AS A MEANS OF HUMAN PROGRESS

There were skeptics in the first days of the Budget Bureau who thought the new movement meant simply more red tape and poverty for the governmental services. Others, who perhaps saw a little further, believed it contained the promise of bringing greater order and higher purpose into the scientific and administrative work of the Government. These high ideals and purposes of the budgetary system were eloquently set forth by the President at the recent semi-annual Budget Meeting of Government executives.

"In spite of the fact that this is the fourteenth of the semiannual budget meetings, there are, no doubt, many who are still wondering why they are held and just what their purposes may be. Nearly every one connects them with economy in Government expenditures. But that is not the real answer.

"The orderly and proportionate use of the resources of the people of the United States is certainly being sought. But that is only the method and the means of accomplishing our main object. The real purpose is nothing less than the true and scientific progress of humanity. It is the major effort in undertaking to establish the correct relationship between needs and resources. It works out into conservation of human energy.

"It is immediately translated into concrete results, not only for the people at large but for the people in the Government service. For the unemployed it makes the prospect of employment more certain. For the employed it makes hours shorter, tasks lighter, wages higher, and positions more permanent. It makes the cost of food and clothing less. It reduces rents.

"It makes the home easier to buy, and, having been bought, easier to pay for. It makes investments give better returns and increases the opportunity for saving. The margin for the comforts, and even the luxuries, of life is widened. The ability comes for broadening educational advantages.

"Leisure is secured for the better appreciation of literature, music, and art. Means exist for the ministrations of charity.

"Contentment and peace of mind come under these conditions, because people have the feeling of success and the consciousness that they are rising superior to their environment. Our efforts are not based on any mean and sordid materialism, but are inspired by a desire to promote the mental, moral, and spiritual welfare of the people."

FLORY'S ALASKA JOB DEFINED

By C. E. Randall, Washington.

Steps to coordinate the varied activities of the Department of Agriculture in Alaska, under the supervision of Resident Commissioner Charles H. Flory, have been taken by Secretary Jardine, with a view to promoting the orderly and full development of Alaskan resources and making more efficient the work of the Department in the Territory.

A year ago Congress paved the way to a better organization of Federal activities in the Territory by passing a law which authorizes the Secretaries of the Interior, Commerce, and Agriculture to designate local representatives as resident commissioners. Acting under this law, Secretary Jardine last June designated as Commissioner for Alaska Flory, who for nine years has been in charge of the National Forests in the Territory. The Secretary's new order is designed to further define the functions and authority of the commissioner.

Where practicable, centralized handling of such matters as purchases, accounting, and personnel and property records for the separate organization units of the Department will be set up, and a pooling of departmental resources and equipment, and a greater spirit of team-work and unified viewpoint is looked for.

"There can be no doubt of the importance of the function which the Department of Agriculture has to perform for Alaska," says Secretary Jardine, "nor of the need for master-planning in connection with our work there. The underlying purpose of the master-plan must be to aid and hasten sound development of the Territory. What Alaska needs to make better use of its natural wealth of resources, is more people and more capital. Alaska must be built up on permanent lines through the creation and enlargement of industries that will stay.

"It has unknown but certainly important agricultural possibilities, great timber-growing possibilities, great possibilities for meat and fur production and the like, and the certainty of large-scale permanent manufacturing enterprises in the course of time.

"Mr.Flory's appointment and the provisions now set up to permit him to carry out the function assigned him will, I am certain, greatly strengthen our equipment for serving the needs of Alaska successfully.

THE PASSING OF EQUUS BROOMUS EXTREMITAS

By E. S. French, D-3

The granting of an injunction by three Federal Judges in Los Angeles January 12th restraining Apache County, Arizona, officials from continuing to criminally prosecute Forest officers for disposing of horses under Regulation T-12 foretells the passing of the broomtail, long an inhabitant of the western ranges.

In this case Ranger Jess T. Fears of the Apache had been arrested and convicted in the Superior Court of Apache County for shooting a horse belonging to Connor Trammel, of St. Johns, Arizona. It was stipulated at the trial that the Ranger had acted under and in compliance with Regulation T-12. In other words, what was wanted by the State was a test of Regulation T-12. The Superior Court held the regulation to be unconstitutional in that it took private property without due process of law.

It is interesting to observe how it happened that necessity arose for shooting the horse. Prior to the roundup the local officers had obtained the interest of horse buyers. But, it is reported, a number of owners of horses taken in trespass banded themselves together for the purpose of obstructing the operation of Regulation T-12. They agreed, first, not to remove their horses from the Forest when requested to do so prior to impounding. This for the reason that the horses had little value and were used by the owners only two or three weeks a year during planting and harvesting, and the owners did not consider it profitable to feed or provide range for such horses. Some of them, including the horse in question, which had been on the Forest for three years, had never even been broken. Second, the owners agreed among themselves not to redeem their horses after impounding. Third, they made such threats of court proceedings that the horse buyers left the country and did not even make a nominal bid when the horses were offered for sale by the Forest Service. Fourth, the owners raised a "defense fund" for the hire of a special prosecutor to prosecute the Ranger. Thus, the Forest officers, in the light of this conspiracy, had the option of either confessing that they had been bluffing or of carrying out Regulation T-12 to the end, i.e., disposing of the unredeemed, unsold animals. This latter course was followed, resulting in the shooting of a number of horses.

With the conviction of Ranger Fears in the County Court, the County Attorney of Apache County having threatened criminal prosecution of Rangers if additional killing under Regulation T-12 occurred, the Government applied to and secured an injunction in the Federal Court restraining such further interference on the part of the county officials.

It is difficult to one accustomed to thinking along administrative lines to comprehend the mental attitude of owners who would refuse to remove their trespassing stock from the Forest when requested to do so by the Ranger or who would refuse to redeem their animals after impounding or who would "chill the bidding" so that there would be no sale for the animals. But it was their last stand. Unless they could bluff the Forest officers out of disposing of the horses, and thus render the preceding steps taken under the Regulation of no effect, they forever lost the indoor sport of being the possessor of a string of broomies. And so they resurrected that much overworked plea of "personal liberty" disguised as "due process of law", their principal complaint being that the Government had not, instead of resorting to T-12, proceeded before the Justice of the Peace under State law, well knowing that under the State laws Forest officers would have to put up fees of various kinds, of six or seven dollars a head, and that the animals would bring only a small fraction of the expenses that would necessarily be incurred. But "due process of law" proved a misfit, for the courts hold that judicial proceedings are not necessary prior to the destruction of property of slight value that is being used in violation of law, as here, in trespass on the Forest and committing a public nuisance; also, that an owner who has notice of impounding and who fails or refuses to redeem his property has no complaint if it is subsequently disposed of.

And the courts have held that regulation of the use of the National Forests is an exercise of the Federal police power; that trespassing stock are a public nuisance; that the abatement of a nuisance is a recognized exercise of the police power; and that the exercise of the Federal police power on the National Forests can not be restricted or embarrassed in any degree by State legislation.

HANDY TIMBER SCALE STICKS

Farmers and other owners of shortleaf and loblolly pine trees in the Southern States will be glad to know of a very useful and valuable "weapon" that is now available. Every farm has bushel baskets and some kind of scales for measuring and weighing the ordinary farm crop. Only a few farmers have been able to measure their logs or scale the lumber in their standing trees.

A set of two timber sticks in a cloth case with a booklet of instructions can now be had upon request. The log scale stick measures the board feet in logs, and the tree scale stick gives the board feet contained in standing trees of shortleaf and loblolly pine. A particularly valuable feature is that each stick shows the scale by the Doyle log rule and also by the International log rule. For small trees or logs the latter gives much truer scale or reading than the Doyle rule in showing what can actually be sawed out of the log or tree.

The plan and the tree-scale values have been worked out by the Forest Service. The set of sticks and holders are being distributed by the American Forestry Association, Lenox Building, Washington, D. C. at one dollar postpaid. This is practically the cost of the set, as the Association is glad to distribute them in line with its educational program.

MORE INSPECTION

By Leon C. Hurtt, Helena.

As Tinker says in the January 9 issue

of the Service Bulletin, the subject "Inspection" is an old one but none the less a live one, and I question if the last word has yet been said about it. I have had experience with some of the same kind of inspectors that Tinker speaks of and possibly some others. There is, for instance, the trouble-shooter that comes out under the designation of Inspector. He breezes in and says, "I want to go into the notorious Blank case", and he does to the exclusion of everything else. Frequently he does very good work and is quite as necessary and useful as the trouble-shooter of a well-regulated telephone company. The company does not consider him an inspector, and there will continue to be some question until the Forest Service distinguishes between an inspector and a trouble-shooter.

I am fully aware that real inspectors of the highest qualifications are frequently called upon to "shoot trouble" by digging into some old chestnut that needs attention. The true inspector considers this incidental to rather than as the true function of constructive inspection.

Then there is the other type of inspector who comes out, as Tinker says, goes into things thoroughly, makes a lot of constructive practical suggestions, goes to the bottom of things, and on occasion gets more or less hard-boiled, but leaves enough work to keep things humming for a year. After a couple of weeks, the soreness wears off and you are glad to see him back two or three years later. He is worth keeping, even if the Supervisor feels at times like using a club on him.

Still another type of inspection sometimes occurs. The inspector drops in and announces the exact train and day on which he will depart. He perhaps goes to the woods, but he questions and cross-examines. He approves nothing, nor does he specifically disapprove. He calls up hypothetical cases when there are many actual ones to contend with. He indulges in very fine distinctions but gives little weight to actual conditions to be met. If he occasionally would say, "This is all wrong, do thus and so", or "This is OK and will pass muster", all would not be lost, but all he does is cross-examine. The Supervisor hopes that the inspector will commit himself before leaving, but he does not, and when the inspector departs on the prearranged train everything is a blue funk. The Supervisor searches his mind for evidence of constructive results from such an inspection. Does he find it?

HOW MUCH OF OUR OBJECTION TO KNOTS AND STAIN IS GROUNDLESS?

Of course style must be observed, whether it insists on a well-developed hirsute appendage in Russia, or the absence of the intimation of a beard in America; but it developed upon M. J. Riordan, secretary-treasurer of the Arizona Lumber and Timber Company, Flagstaff, Arizona, to show how far we follow our prejudices in accepting and rejecting the product of the sawmill. At his direction his private office room was newly ceiled with alternating panels of the best select western yellow pine, and of boards which, on account of knots and blue stain, had been discarded by the graders as unmerchantable. In fairness, the cull material was finished in a manner equal to that of the select, but in place of the former's emphasizing the perfection of the upper grade, it appears like a scheme to render the more in evidence the fine appearance of the alternating panels of blue, uniformly colored as if done artificially, and relieved at frequent intervals by the reddish knots like stars of magnified size. In two panels on the wall (as if the first illustration were not enough), Mr. Riordan has arranged rare woods of many kinds polished to display their beauty. In the center of each, as if holding the place of honor is a larger piece of apparently still rarer wood, also polished until it resembles agate. One of these panels reminds one of the picture of clouds hanging over the Grand Canyon; the other a contour map of the San Francisco Peaks near by. After a visitor has despaired of identifying the choice center pieces and appealed to Mr. Riordan, he gravely informs them that these are a burl, sawn asunder, of western yellow pine, discarded and left in the woods as worthless.—D.3 Bulletin.

NORWAY PINE SEED COLLECTION

By Fred R. Johnson, D. 2.

For several years the Forest Service has been planning to collect Norway pine seed for States cooperating under Section 4 of the Clarke-McNary Law, but lack of a cone crop prevented. Norway pine bears a good crop of seed at intervals of three or four years. In addition, mature and pole stands of Norway pine are not numerous, and in consequence the reforestation program of several States has not proceeded as rapidly as it might have because of the difficulty of securing this much desired seed. For a number of years, Norway pine seed has been quoted at $10 to $15 a pound by seed dealers and it has reached a maximum of $20 to $25.

The fall of 1927 offered the first opportunity to make a large collection. The seed crop was only fair, but the collectors, most of whom were Chippewa Indians living in and near the Minnesota Forest, were attracted to this work for several reasons. In the first place, there was no crop of wild rice, which forms a considerable portion of their winter food supply as well as a financial return; secondly, the Indian Agency at Cass Lake made no payment this fall. Consequently the Indians were in need of money for the winter. Several private collectors were also in the region but did not secure much seed from the Minnesota National Forest, as these cones were reserved for the needs of the Forest Service and cooperating States. The largest private collector was the firm of Brannigan & Cheyney, who have a seed extractory near Shevlin, Minn. They secured 3,200 bushels, for which they paid $2.00 per bushel and an additional commission of 25¢ to local people who received the cones.

The Forest Service cones cost from $1.50 to $2.00 per bushel, depending upon competition and upon the point of delivery. Usually an entire Indian family collected cones together and they secured 10 bushels or more a day. About 7,500 bushels of Norway pine and 400 bushels of white pine were collected by the Forest Service on the Minnesota Forest and vicinity. In addition, about 200 bushels of Norway pine cones were secured in Wisconsin before the size of the Minnesota crop was realized. The Wisconsin cones cost the Service $3.00 per bushel plus freight.

The extraction of the seed is now in progress. To date, the cones have produced about 8½ oz. a bushel in contrast with 14 oz. secured in the fall of 1923. As the cones dry out, this average may increase to 10 oz. a bushel. A sufficient supply of seed has been secured for the needs of the Forest Service for the Cass Lake and Beal nurseries for several years to come as well as sufficient for the needs of the eastern States for a year or more. Over a thousand pounds of Norway pine seed have already been shipped to cooperating States at a cost to them of about half the average price. It is estimated that the final cost of the cleaned seed, including the cost of the cones, extraction, depreciation of improvements and equipment, and supervision will not be in excess of $5 per pound.

This is the largest collection of Norway pine cones that has ever been made by the Forest Service and it approaches in size some of the earlier collections of western yellow pine made twenty years ago when direct seeding of old burns was in progress on the National Forests. This successful project is a fitting climax to Ed. Marshall's twenty-five year supervisorship of the Minnesota Forest which ended with his resignation on January 15.

ANOTHER OLD TIMER RETIRES

Mr. Jasper B. Seely, who retired at the age of 70 on October 11, is one of the few of the old timers in the Forest Service who were transferred with the Forest Service from the Interior Department in 1905, having entered that Department as Forest Ranger on May 19, 1899. He was appointed Forest Supervisor of the Madison February 1, 1903, and later was Supervisor of the Jefferson and Helena Forests, and for a short time the Kaniksu. For the past nine years, he has been assigned to the District Office in Missoula.

Mr. Seely has left an enviable record of fearless and forceful administration of his Forests and of having upheld with honor to himself and credit to the Service the ideals and traditions of the organization.

He will give his attention to private business affairs, and his mental and physical powers, unusual in a man of his age, lead his many friends to believe in his success for years to come. - M. H. W.

COERT DU BOIS WRITES COLONEL GREELEY

Dear Bill:

I am in receipt from the Portland office of a multigraphed letter (file RSZ--July 27, 1927) bearing your well-known signature and transmitting to the "American Consul, Batavia, Java; Sir:, a copy of Thornton Munger's bulletin on growing Douglas Fir. It's good - excellent - and so is your introduction and I'm delighted to see you are going to take up each of the timber regions in the same way. It seems to me you are putting forestry technique in a very digestible form out to the only place where it will result in new tree crops - to the timber owner when he logs. I'm also glad to see you are including the Consuls abroad in your mailing lists. Some of them, who think Douglas Fir is a new trade name for Alaska Seal, will probably heave it in the waste basket. But I shall send it, together with the others you are going to be so kind as to see that I get in the future, to the Director of the Forest Experiment Station in Buitenzorg, Java, and he will be delighted and give me much dope from time to time.

By the way, could the Service Library use any of the publications of the Forest Service here? They are all in Dutch, but you can read the pictures and the curves. They have done some good stuff in rate of growth of teak and rotation calculations from sample plots they have carried on in central Java for over 150 years. I've been up to the Forest Experimental Station and had some good talks with the Dutch foresters and I have seen a little of the West Java jungle forests, but I've seen no teak forests as yet - they are all in the East end of the island.

Their problem is almost as diversified as ours since the Netherland Indies is as big as the United States and has a variation in population from 195,000 in Dutch Guinea with an area the size of California, 1,600,000 in Borneo, the size of Texas, and 35,000,000 in Java, the size of the State of New York. When you think that a total native population of about forty nine million people is run - not only run, but cared for with a zeal for public service we don't beat - by a group of white people just four thousand more than the population of Youngstown, Ohio, you have to hand it to the Dutch.

Their problem varies from the task of maintaining wood supplies at not-too-great intervals without curtailing the food producing area in Java (with 700 people per square mile) to trying to persuade someone to go and hack holes in the virgin forests of Borneo so they can get in and see what they've got. I've seen a few of their forest reserves in West Java. Little patches of hardwood jungle all over creepers and with an underbrush that would make a timber cruiser lie down and cry (during which a tiger would probably eat him). They seem to be located wherever the need of wood or forest products (bamboo, canes, thatching material, etc.) becomes more acute than the need for more field crops. Like France. Soil doesn't settle it for you see tea and dry-land rice and casava and everything growing right up to the edge of them. They run a half-section to a section big and are laid out on topography - of which these islands have a large supply. Mash Java out flat and it would fill up the Java Sea.

It was good to see your signature again even if it was mimeographed. Let me have an original some time.

Sincerely yours,
(signed) COERT DU BOIS
American Consul General.

A SOUND FOREST PRINCIPLE

In the PROGRESSIVE FARMER for December 24, Mr. W. W. Ashe emphasizes a very vital requirement for the continuous production of timber. While his article deals chiefly with the southern pines, the rule is widely applicable as it is based upon sound silviculture. A portion of the article, entitled "Second Growth - Woods of the Future" follows:

"The way in which timber is cut and the amount of growing wood which is continuously left upon the land in large measure determines the profit which comes from timberland. That is, all of a stand of second growth pine, even though most of the trees therein may be 12 inches and even more in diameter, should not be regarded as the crop. Only a portion of these trees represents the crop; the remainder represents a portion of the capital or growing stock, and must be held and kept growing in order to secure this maximum yield, which the soil is capable of producing.

"As a matter of theory, as the scientists say, it would be desirable were it possible to do so, to take out each year from each acre just that timber which represents one year's growth - that maximum growth which is made at this point where the soil has its maximum producing capacity.

"Bear this in mind, and never lose sight of it; it is the basis of all methods of making timberland profitable. No matter how urgent the need, no matter how insistent the buyer, hold upon the land a large part, at least half, of all the timber which in your mind the soil is capable of sustaining It would be far better could you hold two-thirds, but it is not always possible to hold this much in making a sale to a sawmill."

This is good. Mr. Ashe's principle is sound, as it is the basis of selective cutting. Too often in Extension work in forestry we have put up the idea of clear cutting with ample seed trees left on the ground. - W. R. M.

PRACTICAL FORESTRY PRODUCING REMARKABLE RESULTS IN SWEDEN

The annual growth of timber in Sweden's forests now exceeds the annual cutting by nearly 100 million cubic feet, according to a study of the Swedish forestry system by Trade Commissioner Emil Kekich, recently released by the Department of Commerce. This result, the report declares, has been accomplished through forestry practice making extensive areas more productive and through closer utilization, which has relatively reduced cutting.

While for many years discussions have been going on in various parts of the world regarding the possible shortage of softwoods and the scientific methods of replacement essential to safeguard future supplies, Sweden has gone consistently ahead solving its own problems by putting into practice these self-same methods. It early introduced practical experimentation and legislation in forestry - both of which have proved eminently successful. Most important of all, it has inculcated into the public mind a vast amount of what might be called "forest sense" so that the general public now clearly recognizes the economic importance to the country of its forest wealth.

Scientific forestry is not confined to the Swedish Government, the survey shows. Practically all the large lumber, paper and pulp corporations operate forest departments of their own which work in close harmony with the Royal conservation boards, the Government Forest Service and the colleges and schools. The Swedish Forestry Association is a body composed now of more than 4,000 members. Under its auspices lectures are given, excursions into forests are conducted and periodicals and pamphlets relating to forestry are published.

POINTERS FOR SPEAKERS

Professor E. V. Jotter in a letter to District Forester Kelley, who on November 30 addressed students of the Michigan Agricultural College, writes as follows:

"Personal experiences go over big and can illustrate many features of protection, personnel and administrative interest. Pictures of the local conditions, timber, fire protection, people, are very much worth while.

"There should not be such well-known facts as 'Douglas fir reaches a diameter of six feet,' but 'Southern yellow pine grows four or five feet a year' would be more novel and also gives an idea of favorable growth conditions.

"I think that any picture of local conditions is good if it ties up with forestry in any way. However, I believe that the boys would get more good out of 'How to Succeed' stories than any other line because a number of them have difficulties later in getting along with people. I suppose the ability to handle our human relations comes with experience, but a lot of it is acquired through hearing and profiting because of the experience of others.

"A talk should rarely last over thirty or perhaps forty minutes and then if the speaker has developed interest there will be questions. I think the method of 'Ask me questions and I'll answer them,' is no way to begin a talk.

"When the talk is before a class the speaker should confine himself to the subject. While stories to illustrate a point are good, within limit, I believe that class talks should be serious facts and principles. The boys are paying for these lectures."

THE YEAR'S G-RECONNAISSANCE WORK

By W. G. Koogler, D. 3.

The Grazing-Reconnaissance party work for the past field season began in the Pleasant Valley district of the Tonto National Forest on May first and was continued through to the end of October. During the season a two inch scale drainage and form line and an intensive grazing reconnaissance map were made of approximately 296,800 acres or 464 square miles. Costs of the completed map and field reconnaissance, including the field and office compilation costs of the triangulation control established by the office of Engineering last year, were 3.846 cents per acre, which is apportioned as follows: Cost of control established by Engineering 1.18 cents per acre; cost of field reconnaissance alone, based on and comparable to last year's work, 1.35 cents per acre; cost of detailed mapping 1.316 cents per acre. The party averaged 75.4 per cent effective time and 53.8 field examination, which is slightly better than last year, and which is 0.4 per cent over in the former and 1.2 per cent under in the latter of the objectives set up by the Washington office of Range Management. During the period that it was possible to work from trucks, motor transportation cost averaged $121.91 per month as against $249.15 where pack work was necessary, and this difference in spite of the fact that per mile operating costs on the old trucks rose from last year's cost of about three cents to nearly six cents this year.

During the summer, assignments of administrative men of about two weeks duration were made from the Prescott, Crook, and Coronado forests. I was very much pleased with the keen interest and close attention these men displayed in all phases of the work and feel that the members of the reconnaissance party benefited equally with the administrative men in the many discussions and interchange of ideas made possible by these assignments. It is hoped they will be continued.

RANGER MALOY RESIGNS

After ten years of service on the San Juan Forest, Ranger J. C. Maloy has resigned, effective January 31. Maloy has decided not to leave the San Juan country, however, and will take up the management of a ranch within the Forest boundaries in the Animas Valley near Durango. Fellow officers, not alone on the San Juan, but all in the District who knew him are sorry to say "Goodby", but are glad to say with all sincerity "Good luck - and lots of it", and hope that he will find his new work pleasant, interesting, and profitable.

A CLEVER IMITATION:

Bricks made to look like a piece of log with the bark on is the latest substitute for lumber. Elm, ash, and hickory are the trees imitated in the colors of green and brown.- D.#3 Bulletin.

Service Bulletin

U.S. FOREST SERVICE

(Contents Confidential)

VOL. XII. No. 8. WASHINGTON, D. C. FEBRUARY 20, 1928.

WINTER FIRE FIGHTING

By Hugh Rhea, Wallowa.

On December 2, 1927, Rangers W. G. Miller, W. H. Smith, Hugh Rhea, and Truck Driver C. R. Byarlay, loaded the Killifer fire plow and a 2-ton caterpillar on the truck and headed for an imaginary fire somewhere within the Forest boundary and close to the Enterprise - Flora Highway. Although it was raining and snowing and the roads were somewhat soft for the load that was on the truck, it was mighty fine fire fighting weather and the performance of the cat. and plow, when it comes to making fire line, was unquestionably fine, in the opinion of all present.

Following is a time study made while the test was in progress:

Left Byarlay's "cold storage for equipment" at 8:15 a. m. and drove 5/8 miles to the depot (where an inclined platform facilitated easy and rapid loading), loaded equipment and were off to the fire at 8:40 a. m. At 11 a. m. we were 12 miles from Enterprise and the outfit was unloaded to begin work. It was decided that to proceed farther with the loaded truck would be an unnecessary hazard, as the road was quite soft and muddy.

The cat. and plow were then tried on open, level ground, and trench made at the rate of 2 chains per minute or 1 and 1/2 miles per hour and a very good trench it was, 8 to 12 inches deep with an average width of 18 inches.

The cat. and plow were then driven up the road until beside the Forest boundary, a distance of 2 miles, in 35 minutes, and trench was then made under typical fire fighting conditions insofar as the topography of the ground was concerned. The fire line was made on a hillside with grades running from 10 to 20 per cent, over gullies and small creeks, through thickets of lodgepole reproduction and poles, at the rate of one chain per minute or approximately 3/4 miles per hour.

Poles that were 3" to 5" D. B. H. and 15 to 20 feet high were pushed down and uprooted, large rocks were loosened and rolled out of the trench, roots to a depth of 12" were pulled up and broken in two and pushed to the edge, small logs up to 7 inches in diameter were broken in two or rolled to one side, and on the whole a trench was made that would require very little, if any, reworking, and at such a rate that according to the estimate of those present it would take at least 50 men to construct the trench in a similar time. One feature noticed was that the Killifer plow followed the contour of the ground and did just as good work in the bottom of narrow, deep depressions as on the higher ground. A small narrow creek was crossed several times at different angles and each time the trench was practically as good in the bottom as on either side.

The 12-mile return trip to town was made in 55 minutes, as compared to 2 hours and 20 minutes going out. This was due no doubt to having down hill going and the truck working much better on the return trip.

The average loading time for the test was 14 minutes. The average unloading time was 10 minutes, and the average speed of travel was approximately 8 miles an hour.

The average speed of travel was affected by the road conditions (one which would not be encountered ordinarily during a bad fire season) and it was the opinion of those present that with the average going 12 miles an hour should be a good figure while with a good chance 15 miles per hour should not be too high an average.

A test of this kind brings out many things that otherwise would not come up until an emergency arises. It helps in overcoming all lost motion in getting the outfit to going after loading and unloading, shows the best ways to load and unload so that this can be done quickly and efficiently, the proper material to have on hand so that after the outfit is on the job it can be used to the best advantage. If there are any weak points in the method it will be a good chance to find and correct them, and on the whole it was the opinion of all present that a test of this kind was "good stuff".

ADMINISTRATIVE SPECIALISTS

By E. W. Tinker, D. 2.

When the doughty P. Keplinger starts to prove we need administration experts, using the full force of his study course style of innuendo, implication and quotation, he naturally invites discussion. He watches with amusement, possibly sardonic, the passing of one fad over the Service followed by another. But now! ah, what a relief, the administration expert is about to arrive. According to Hess, quoted by Keplinger, this man will be expert in "laws and principles writ in the nature of all that constitutes human experience." A kingdom for a 5-year course on the subject. According to Marshall, also quoted, this expert of experts must have understanding of "the physical environment, the earth sciences, social environment, and ust give, accordingly, attention to civics, law, economics, social psychology, and other branches of social science. But this is not all, "It must be supplemented with a range, of course, dealing with business management."

Admittedly, there is a fine field here. While it is easy to cite this or that case of failure of the expert to get things done because he is out of step with the administrative phases of his work, yet it is fundamentally unsound to assume that the student of social psychology and human relations and experiences can get away with a job requiring supervision of experts along certain lines unless he is an expert himself, or at least has a broad vision of what the experts are trying to do, etc. It is seldom that a 4-year course in forestry imparts this vision without added experience, and I have serious doubts if it is not easier to give the administrator his social experiences in human relations making an expert administrator out of him than it is to impart forestry, range, or recreation management vision to the administrative specialists. Mr. Keplinger implies that we do not give sufficient recognition to the technic of administration. Is this true? I think not. In fact I have heard it suggested that the opposite is true. That administrative technic has carried us away and that we are so involved in the technic of administration we are forgetting why we are administering.

I have an idea we can and have developed administrative experts from technicians and I venture that 75 per cent of our inches of space and hours of discussion are given to administration technic. There is a happy ground where the administrator and technician are blended in one individual, and then we have the ideal administrator of a technical job, and all jobs are more or less technical these days.

EDUCATION

The Rocky Mountain District reports on addresses given as follows - thirty-six speakers, at 187 meetings, addressed 23,259 people.

Most of the meetings were in the smaller towns, so that the work was of an intensive nature. Boy Scouts, women's clubs, sportsmen's clubs, schools, realtors, Rotarians, Kiwanians, Lions, County Boards, and Parent Teachers Associations are a few of those reached, with District Forester, Supervisors, and Rangers participating. Mrs. Chipley reached one-third of this total in the schools of Denver and Pueblo.

NATURAL SEED COLLECTION

By R. F. Taylor, Tongass.

On a Forest such as the Tongass, composed largely of a belt of islands 120 miles in width and some 400 in length, it would seem that a large part of the seed disseminated would be wasted in the sea. No doubt this is partly true, but the sea casts up some of its dead.

While laboriously extracting seed from cones this fall, an old timer in the region mentioned having seen long "windrows" of seed along high tide line on the beach. This statement was soon forgotten along with other lurid stories of fearsome beasts and peculiar natural phenomena (such as galloping clams) until one day, while cruising timber in Thorne Arm, we were compelled to corroborate the old gentleman's statement. A long windrow of spruce and hemlock seed had been deposited at high tide line. It seemed to be in good condition; the wings still intact, and gave no indication of having been soaked very long.

It was dark when we returned and we had no time to gather any of the seed, but the writer, having a propensity for delving into things which only in some cases concern him, took a quantity of seed collected earlier in the year which still retained the wings and performed the following crude experiment.

A vessel of sea water was purloined from Tongass Narrows and placed where it would remain cool yet not freeze. Into this the seed was thrown and thereafter periodically 100 seeds were removed and germinated on a blotter.

The following results were obtained.

Check	44 per cent germination
2 days in seawater	47 per cent "
3 days " "	53.8 per cent "
4 days " "	48 per cent "
5 days " "	27.07 per cent "
6 days " "	28.26 per cent "
12 days " "	16.00 per cent "

After 5 or 6 days in the water a goodly portion of the seed sank to the bottom of the pan. For this reason the writer is of the opinion that seed cast upon the shore could not have been in the water a greater period of time.

The past two years have yielded poor seed crops in Southeastern Alaska, but the extended period of stored energy, together with an exceptionally dry and sunny summer, has contributed to produce a bumper crop this year. Seed is everywhere on the snow in the woods, and if the waters of the sea are going to return their share, depositing them carefully on the beach in neat rows already extracted and ready to be collected or whirled back into the woods by the first breeze, what can halt natural regeneration in Southeastern Alaska?

PERPETUAL GRAZING RIGHTS

By Alva A. Simpson, Custer.

Mr. P. L. Buttrick's "Politics and Perpetual Rights" in the January issue of the Journal of Forestry should commend itself to all of us who administer grazing on National Forests.

Stockmen generally are receptive to perpetual rights providing the subsidies of Federal controlled grazing are retained. They are unresponsive to the idea if they must bear the full burden of taxation, protection and upkeep now carried by privately owned land. Larger interests see clearly the tremendous advantage of perpetual assurance in the use of National Forest forage resources; and the appreciation in value of their livestock plants if the usual burdens of private ownership of pasture lands are avoided. The Forest Service has yielded in many instances to effect what we are pleased to call "Stabilization". Whether this policy of stabilization is sound or not only time will tell. Certainly the policy combined with administrative complacency may tend toward the creation of such a feeling of rights on the part of the stockmen that it will become difficult, if not impossible, to make adjustments in future. Primarily we should be concerned in the production of our timber crop and its attendant benefits. Grazing through the very nature of the use should be subordinated to timber production requirements in our scheme of management. Will our stabilization policy prevent us from practicing the best form of silviculture and if so will we be free to effect modifications of grazing use without upsetting this stabilized condition? Personally I can see the advantages both from the stockmen's viewpoint and from the viewpoint of diplomatic, lack of worry, grazing administration of our closer knit grazing policy as exemplified by our amended regulations, but I cannot convince my inner self that we should ever permit a condition that might jeopardize our future management of these National properties for their primary use. If we must become stabilized let us at least remain non-complacent.

PHILOSOPHY OF HENRY FORD

"It isn't the incompetent who destroy an organization. The incompetent never get into a position to destroy it. It is those who have achieved something and want to rest on their achievements who are forever clogging things up. To keep an industry pure, you've got to KEEP IT IN PERPETUAL FERMENT."

---Literary Digest.

WHERE THEY'LL DO MOST GOOD

By Jno. D. Guthrie, D-6

The Forest Service, along with the rest of the Government, issues annually an enormous volume of printed matter. Much of this is the result of hard work, scientific investigation, and careful research. Unfortunately, much of this printed matter never gets to the people who would be interested in it, or those who would read it, because of faulty distribution, or thoughtless or careless distribution. We need to put more thought into the distribution of our material. It costs money to collect, prepare, and print such information.

Supervisor Kuhns of the Whitman recently made an excellent distribution of copies of Zon's bulletin "Forests and Water". As of possible interest and practical value to other Forests, his distribution list is given below:

E. A. Phillips, V.-P., Ore. Cattle & Horse Ass'n. and 2nd V.-P. Ore. Woolgrowers; H. M. Broadbent, Supt. Baker City Schools; Rev. James Fraser; Secy. Baker Chamber of Commerce; E. R. Gurney, Baker White Pine Lbr. Co.; Fred Kerr, President, Kiwanis; David I. Stoddard, Oregon Lbr. Co.; K. G. Warner, Pres., Ore. Woolgrowers; Baker Public Library.

We can't make people read, but we can place our stuff where it will be pretty liable to be read!

WHO EATS THE PINONS?

A question that is often asked in the Southwest is, "What becomes of the large amount of pinons gathered in the Southwest during good crop years and shipped East?" A recent issue of the New York Times states that "The main demand for pinons is found among the foreign born population of New York's east side. This nut is a favorite with push cart peddlers. It is estimated that from 50 to 100 carloads a year are thus retailed." The same article states that New Yorkers spend from 30 to 40 million dollars annually for all kinds of nuts. - District 3.

"THE ENGLISH"

"We'll begin with box; the plural is boxes,
But the plural of ox should be oxen, not oxes.
One fowl is a goose, but two are called geese,
Yet the plural of mouse should never be meese.
You may find a lone mouse, or a whole nest of mice,
But the plural of house is houses, not hice.
If the plural of man is always called men,
Why shouldn't the plural of pan be called pen?
The cow in the plural may be called cows, or kine;
But a bow, if repeated, is never called bine;
And the plural of vow is vows, never vine.
If I speak of a foot and you show me two feet
And I give you a boot, would a pair be called beet?
If one is a tooth and a whole set are teeth,
Why shouldn't the plural of booth be called beeth?
If the singular's this, and the plural is these,
Should the plural of kiss ever be written kees?
Then one may be that, and the two would be those,
Yet hat in the plural would never be hose.
And the plural of cat is cats, and not cose.
We speak of a brother, and also of brethren,
But though we say mother, we never say methren.
Then the masculine pronouns are he, his and him,
But imagine the feminine, she, shis and shim!
So the English, I think you all will agree,
Is the funniest language you ever did see.

--Typosium.--D. 4 Bulletin.

"MAN KICKED ON NOSE - HORSE KILLED"

By F. V. Horton - Columbia

Out of the grist of bills, claims and compensation cases, there is occasionally a gleam of humor. Here's a case. One Rex Murphy was kicked on the nose by a horse; said horse was owned by Art Davidson, packer. Later, the same horse was accidentally killed.

We sent Murphy's compensation form to Davidson for his statement as a witness to Murphy's accident. Davidson takes a snap look at the form and writes a full and detailed explanation of how the horse was killed. Now, we have a compensation form which shows clearly that Davidson's horse met a violent death by kicking one Rex Murphy on the nose. As nearly as we can tell, the horse broke its leg and Murphy is as good as ever.

HERE'S ONE FOR ACCOUNTS

By M. H. Davis, Chelan

An entry from a Chelan Ranger's diary for December 16, 1927, reads as follows: "Cleaned barn and hauled manure from government-owned barn where privately-owned horses under contract of hire to the government are stabled". We might add that the manure was put on government-owned garden to grow vegetables consumed by private parties employed by the government under appointment.

WHAT'S YOUR BRAND OF INTELLIGENCE?

There are three different kinds of intelligence, Dr. N. A. Moss of George Washington University disclosed recently in a paper before the American Psychological Association - abstract intelligence, which makes research workers and savants; social intelligence, which makes good politicians, and business men; and mechanical intelligence, of which he said Henry Ford was an outstanding example.

Tests for high social intelligence are the latest development in commercial adaptations of psychology. Dr. Moss told of one New York department store that has abandoned the ordinary intelligence tests and submits all prospective salespeople to "social intelligence" tests. Persons passing these tests with high ratings are said to be the ones most likely to develop into good salespeople.

Highly successful traveling salesmen are men with high social intelligence, he said.

"Intelligence tests" are not to be linked with psychology, but rather with "pseudo-science," Dr. H. W. Johnson of the Mellon Institute of Industrial Research told the convention.

Such tests, he said, are only 8 to 15 per cent effective, and psychologists who use them are merely employing equivocation and methods of magic, rather than science.

"Intelligence, learning capacity, arithmetic ability, and many other variables about which psychologists talk belong to the class of things which cannot be measured or observed, and yet some psychologists have been trying to find 'tests' for them," he said.

A PROFITABLE BUSINESS-BURL

No use to consult Webster, so let me tell you, as told to me by Mr. Noel Insall of Boerne, Texas, who states that he has been in the burl business twenty-five years, and has sold as much as $26,000 in one year. Mr. Insall is at present on the Ruidosa District getting out a carload of Mexican Walnut Burl. Now this Walnut Burl is that part of the stump that shows, on examining a piece of the outer wood, numerous spike-like growths that project into the cambium layer. The burl is not always a part of the stump, for I found one tree that has burl on it four feet from the ground, however, a great part of the burl, and the most valuable, is found on the stumps. According to Mr. Insall the burl is a diseased growth, and the trees do not live many years after it has developed. The stumps weigh from 500 to 1000 pounds. They will be trucked to Roswell, New Mexico, a distance of 65 miles, then shipped to San Antonio, Texas, where Mr. Insall has a storage house. From here most of these stumps are shipped to England, France, and Italy where they are worked up into high class furniture. The freight cost on stumps from San Antonio to Galveston, 200 miles, is 55 cents per 100 pounds, and from Galveston to La Havre, France, more than 1000 miles, is 45 cents per 100 pounds. Before the war the greater amount went to Germany, but since the war the Germans are so particular as to quality and price no more orders are taken from them. All of the merchantable Walnut Burl in the State of Texas has been used, states Mr. Insall. The price paid here is 50 cents per 100 pounds or $3.00 per stump, the average price received by Mr. Insall, f. o. b., San Antonio, is 5 cents per pound. The shrinkage is about 10 per cent in one year. Lincoln Bulletin, D. 3.

GIRLS PLANT 200,000 TREES

January first marks the end of Tree Year! And yet we are at just the beginning of our love for trees and our interest in planting them, for Camp Fire is going to make the Tree Honor a National Honor that you can win every year.

What fun this Tree Year has been! The stories that have come to National Headquarters with the applications for the Tree Year Honor are thrilling. It has meant happy comradeship, high adventure, and the joy of service. And beauty has played its part, for, along with the planting of trees, you have also planted hollyhocks, lilacs, daffodils, goldenglow, ivy. Truly who walks with Camp Fire Girls may walk in beauty!

The list of trees planted is imposing - at least 200,000. And what a variety! We have learned much about trees from this Tree Year. Trees have been planted in some parts of the country which those in other parts of the country may never have heard of before. As we are always looking forward in Camp Fire, can't you just see us enjoying the shade of the lordly oaks, the beauty of the eucalyptus trees, the friendliness of the elms, the song of the pines we have planted this year? And there is a newer species, one known to all lovers of nature but especially loved and planted by Camp Fire Girls - the living Christmas Tree!

Planting, we know, is just the beginning. The trees we have planted must be watched and cared for. There are so many things to think of! In some places it is so dry and hot - in others it is so cold! So we must keep our eyes on the trees we have planted, and of course plant more and more. - Janet McKellar in "The Good Times", Camp Fire Girls Bulletin.

ATTENTION: SERVICE GARDENERS

By W. A. Dayton, Washington.

District Forester Flory on his recent detail in Washington, called my attention to an article which I had evidently overlooked in the Official Record for October 19, 1927, on a "home fertilizer demonstration" by Dr. J. W. Turrentine, In Charge Potash Investigations, Fertilizer Resources Division, Bureau of Chemistry and Soils.

I have since discussed with Dr. Turrentine to a limited extent the fertilizer tests which he and Dr. Oswald Schreiner are conducting for the bureau mentioned. Dr. Turrentine states that they have as yet no printed matter dealing with the use of modern concentrated fertilizers in gardens and lawns but are securing "a rapidly increasing lot of data dealing with the application of these compounds to agricultural crops."

In the "solution method" which Doctors Turrentine and Schreiner are using, and which is still in the experimental stage, "the fertilizer salts are first dissolved in water and the resulting solution applied to the growing plants. The proportion is roughly a handful of the salts to two gallons of water. The solution is applied lightly about twice a month and is washed off the foliage and stems of the plants to prevent burning. The salts employed were ammonium sulphate (containing 8 per cent K_2O), ammonium phosphate, urea phosphate, and potassium nitrate. Since it is commonly accepted as desirable to add the three elements, N, P, and K, at the same time, and since these three elements are regarded as sufficient for satisfactory fertilization, it should suffice to use a mixture of ammonium phosphate and potassium nitrate or ammonium phosphate and potassium phosphate, or, in short, any combination of salts giving these three ingredients in water-soluble form."

"PLUS-FOURS"

By Lenthall Wyman, Southern For. Exp. Sta.

From the land of sunshine and the State of flowers let me put in a good word for "nickers" as an essential part of the Forest officer's uniform. As a research man who has progressively worn skirts, kilts, short pants, long ones, "stags", riding breeches, and golfers togs I want to say that the latter are far and away the most comfortable and efficient type of clothing encountered so far. Long trousers are all right in their place for town use, but in the woods they flap around too much and tear up on snags and briars. Riding breeches are the poorest articles ever devised for a Ranger footloose and free, unless he craves to pose for a picture. They are too tight in the knee, making it impossible to straddle fences or kneel down to collect seedlings. Many of the 1928 brand of Forest officers need some sort of pants which can be worn while driving a Ford or while afoot in the forest. "Nickers" certainly fill the bill, and for riding they are just as satisfactory as breeches.

I can imagine I hear a rumble of protest from some bewhiskered Ranger astride a cayuse in the wide open spaces to the effect that this new brand of young technical assistants may outlive the craze in time, to which I reply that while I was not too old to know a good thing when I saw it or too set in my ways to take advantage of what I learned, at the same time I was old enough to be a forest assistant for several prewar years.

Many long-suffering forest officers will be grateful that at last someone has set forth the claims of this garment. Is it too much to predict that it (or should it be they?) will be a recognized part of the uniform in five years. Additional reasons: European foresters wear them; the present prejudice against them is no greater than the pre-war prejudice against "choke-bore pants" as riding breeches were then known in the West; they are more appropriate for unmounted officers. - Respectfully referred to Uniform Committee. - S.

NEW ADVISORY COMMITTEE

In connection with the election of the Advisory Committee for the calendar year 1928, six candidates were nominated. Later one of these withdrew her name. Since the Committee is composed of five members, the actual number of nominations accepted, an election was not necessary. The members of the Committee for the current year are as follows:

Mrs. I. A. Armstrong
Mr. Claude M. Ballard
Mrs. Annie E. Hoyle
Mr. Harry Irion
Mr. Charles H. Squire

AN OLD FRIEND ON A FOREIGN STRAND

By L. F. Kellogg, Central States For. Exp. Sta.

The farming regions of the lower Missouri, Mississippi, and Ohio Rivers are the battleground between west coast woods and southern pine. It is not uncommon to find a retail yard or competitive yards in the same town carrying lumber from both regions. When we turn to Christmas trees, however, any departure from the customary spruce, balsam, or pine is quite a novelty. During the recent Christmas season, the office of the "Dispatch" in Columbus, Ohio, was decorated with four tall, thrifty symbols of Christmas whose growth was far too rapid and whose leaders were far too long for any product of a northern clime. The droop of the twigs, the color of bark, the taste of the needles, the red, pointed buds, all pointed to one tree only, and that from the western coast. The evidence was complete as a tag was removed from one tree bearing the name of a dealer in Tacoma, Washington, who sells Douglas firs for Christmas trees.

Subsequent inquiry has brought out the fact that the "Dispatch" has contracted its Christmas decorations to the same party for the last three years. He supplies the "greens" and installs them, shipping his materials from Washington. The economics of a situation which allows the transportation of Christmas trees for 2500 - 2700 miles would be of considerable interest.

TREES AS SNOW FENCES

Every winter drifting snow plays havoc with transportation, whether it be by road or rail. Artificial snow fences, as seen along the highways and railroad lines are expensive to construct and maintain. Temporary wooden snow fences are as unsightly along the American arteries of travel as the outdoor signboards.

Evergreen tree fences holding their foliage close to the ground recommend themselves because of cheap initial cost, small maintenance cost after planting, because of their effectiveness, and because of their appearance. Nursery stock is now so reasonable in cost that the establishment of living snow fences is cheaper per foot than any of the artificial fences. Growing trees along the roadsides prevent snowdrifts in winter and add to the general attractiveness of the countryside in summer. Nothing is so monotonous and unpleasant in summer driving as bare roadsides. - N.Y. State College of Forestry News Release.

HARD MAPLE TREES PRODUCE REVENUE

The privilege of tapping hard maple trees for maple sap was recently granted by District Forester Harry E. Elliott of the Susquehannock Forest District with headquarters at Coudersport. One hundred thrifty hard maple trees were selected and a nominal charge was made to a local resident for the privilege of tapping the trees this spring. From 5 to 40 gallons of sap are taken from each tree during the season, the average, however, being between 10 and 20 gallons. One tree can be counted on to yield one pint to one gallon of syrup or 1 to 7 pounds of maple sugar. It usually takes 32 gallons of sap to make one gallon of syrup or 7½ pounds of sugar. The holes made in tapping are confined to the first few feet of the tree trunk. - From Pa. Dept. of Forests and Water Service Letter.

THE STUDY OF COST ACCOUNTING is proving to be most popular. The lessons are now going to 172 men in all the Districts. Each week we receive new applications from Forest officers who want the course for the information they will get out of it. - District 2.

Service Bulletin

U.S. FOREST SERVICE

(Contents Confidential)

VOL. XII. NO. 9 WASHINGTON, D. C. FEBRUARY 27, 1928.

WE ARE TO LOSE COL. GREELEY

Col. Greeley will resign May 1, 1928, to accept a position with the West Coast Lumber Manufacturers Association, it was announced to-day by Secretary of Agriculture Jardine. Maj. R. Y. Stuart, now assistant forester in the Forest Service in charge of public relations, has been appointed to succeed Colonel Greeley.

"It would be impossible to overstate the high character of the service that has been rendered by Colonel Greeley to the welfare of the American people," said Secretary Jardine in accepting Colonel Greeley's resignation. "He has been a wise and careful, but a fearless and vigorous administrator and leader. His public service has been continuous over a period of more than 23 years, his entire working life up to the present time. He has risen because of his outstanding ability and competent performance from a beginner's place to the head of the organization which administers more than 150,000,000 acres of Federal land, and during his 8 years as chief of the Forest Service he has uniformly commanded the respect of his subordinates, enjoyed the confidence of those over him, and won unreserved approval from the public as a constructive, well-balanced, eminently fair and always far-sighted counselor and maker of policies. His record during the World War as organizer, leader, and administrator was likewise notable, but it is first af all as the director of the forest work of this department and the leader of the general forestry movement of the country during a period that has presented many problems of exceptional difficulty that he has made a permanent place for himself in the public esteem and in history."

Col. Greeley has been with the Forest Service since 1904, his first connection, following some investigative and inspection work, being that of overseeing the welfare of the Sequoia National Forest in southern California. In 1908 he was called to Washington to become assistant chief of the division of management and later was appointed District Forester for District 1, with headquarters at Missoula, Mont.

In 1911 he was again called to Washington, this time to take charge of a branch of the service through which he had supervision over timber sales, timber and fire trespass cases, reforestation, and cooperative work with States and private owners in promoting fire protection.

During the World War he was asked to take charge of the recruiting of forestry troops for the American Expeditionary Forces, and later was sent to France. Early in 1918 he became chief of the forestry section of the A.E.F. In that connection he had charge of 21,000 forestry troops and 95 sawmills. After more than two years in the Army, during which time he was given awards for Distinguished Service by England and the United States and was made a chevalier of the Legion of Honor by France, Colonel Greeley returned to the Forest Service to take charge of the branch of forest management. With the resignation of Colonel Graves as chief forester in 1920, he was appointed to succeed him.

Colonel Greeley was born in Oswego, N. Y., 49 years ago. At the age of 10 he moved with his parents to California where he lived on a ranch until he entered the University of California from which he was graduated. Just prior to his coming to the Forest Service in 1904, he spent two years at Yale in graduate work at the School of Forestry.

Major Stuart, who will become the new chief of the Forest Service, has, like Colonel Greeley, had a wide range of forestry experience and education. He first came to the department in 1906 direct from the Yale Forestry School where he had received an M. F. degree, entering the Forest Service as assistant in timber sale work. After several years in the Western National Forests, especially in the Northern Rocky Mountain Region where he was forest inspector and chief of operations, he came to the headquarters of the Forest Service in Washington, D. C. In 1917 he was furloughed for military service in France with the 10th Engineers. After the war he returned to the Forest Service but resigned in 1920 to become deputy commissioner of forestry in Pennsylvania. He later served for several years as secretary of the Pennsylvania Department of Waters and Forests. On February 16, 1927, he was again called to the United States Forest Service to assume his present position.

* * *

ATTORNEY GENERAL SARGENT SUSTAINS FORESTER'S POSITION IN NORTHERN PACIFIC LAND GRANT CONTROVERSY

Every major point raised by the Forester in presenting the Service's case in the Northern Pacific Land Grant Controversy was sustained by Attorney General John G. Sargent in a memorandum which he transmitted to the Joint Committee of Congress February 8.

Congress had, by Joint Resolution of March 3, 1927, directed the Attorney General to advise the Northern Pacific Land Grant Committee "as to what legal or legislative action should, in your judgment, be taken in the matter of the adjustment of the said Northern Pacific land grants." This resolution followed the hearings held by the Joint Committee, at which some 5,500 pages of testimony were taken on the twenty-two points raised by the Forester in connection with the adjustment of the Northern Pacific land grants as made by the Interior Department. An indicated unsatisfied deficiency in the land grants threatened to pass into ownership of the Northern Pacific upwards of 3,000,000 acres of National Forest lands within the indemnity limits of the grants.

At the hearings before the Joint Committee, the Forester maintained under his twenty-two points that if the proper deductions were made from the acreage of the land grants, and if the Northern Pacific were held to be accountable for its violation of the land grant provisions, it would not be entitled to any additional lands from the Government.

The Forester contended that the Northern Pacific already had received more than it was entitled to under the grants.

In his memorandum transmitted to the Joint Committee, the Attorney General sustains every major point raised by the Forester. Of the twenty-two points offered by the Forester, the Attorney General agreed with nineteen and disagreed, in part, on three minor points.

In one of the concluding paragraphs of the opinion transmitted by the Attorney General in which is analyzed each one of the Forester's points or suggestions, it is said:

> "A consideration of the foregoing suggestions indicates that not only does no deficiency exist in the grants but that the company has already re-

ceived approximately 5,000,000 acres of public land which it has not earned and is not entitled to, besides additional values."

The opinion concludes that the United States may revest in itself any of the granted lands remaining in the ownership of the company, and that Congress may declare the grants forfeited.

..r. D. F. McGowan who prepared and presented the case of the Forest Service states that on the basis of the Attorney General's opinion, the United States may save all of the National Forest lands that were in jeopardy at the commencement of the inquiry, as well as several million acres of other lands that have passed into the ownership of the Northern Pacific by reason of the land grant.

THE ANTELOPE - OUR OWN PARTICULAR GAME ANIMAL

By Will C. Barnes

(From an article in the January issue of "The Producer")

It was a very common incident in the early days from 1890 to 1895, when making a cattle-round-up, to find a number of antelopes mixed with the cattle, picked up on the range. Once entangled with the cattle moving toward the round-up ground, they seemed bewildered and unable to find their way out of the milling, bawling mass of animals. Sometimes the boys would rope one, just for the fun of the thing; but they never tried it a second time; for a livelier, more agile object at the end of a forty-foot rope was never seen. They appeared to go crazy with fright, and romped around like will-o'-the wisps. It was almost impossible to throw one, no matter how quickly you moved your pony. They would make a run at the roper, and jump clear over him and his horse. The air was full of antelopes. The fracas generally ended by the horse getting tangled up with the rope and staging a bucking contest. Antelopes are very delicate and easily injured.

I have eaten a good many antelope steaks and have never yet found one that did not taste like "woolly mutton." For this reason, very few of these animals were ever killed for meat. Occasionally some one would get a pot-shot at one and bring in the hindquarters to camp; but if there were any beef to be had a meal or two of antelope was all we cared for.

This little animal - the Antilocapra Americana, or pronghorn - is found nowhere else than in North America. The very first Europeans to reach our shores in 1519 - the Spanish Conquistadores - hunted and killed them in vast numbers. Their range is from central Mexico clear across the United States, along the slopes of the Continental Divide, into western Canada. Their numbers as late as 1875 were estimated at between 30,000,000 and 40,000,000. Yet by 1926 a careful census showed not more than 30,000 living specimens, located in nearly 300 separated bands - 80 per cent of them in our far-western States.

The notable thing about the antelope is its horns. With a horn structure similar to that of cattle - i. e., a soft, bony core covered with a hard, horny sheath - it stands alone among all hollow-horned animals in that it sheds the outside covering every year, as do deer and elk. The latter animals, however, shed the entire horn structure right down to the skull, and a new one grows out. The antelope merely sheds the outside cover of the horn, and a new one at once begins to grow over the core. Singularly enough, instead of growing from the base of the core upward, this bony covering starts at the extreme tip of the core and grows downward, until it completely covers the core, clear to the skull. Another odd characteristic is that, unlike deer and elk, both sexes of antelopes have horns.

The Navajo Indians of the Southwest used to hunt antelopes by tying to their heads an old pair of horns and hanging over their shoulders either a bit of white cloth or an old antelope hide. Sometimes the Navajos would smear white earth over their faces, arms, and shoulders. Thus disguised (?), they had little trouble in working their way up to a band and securing all the meat they needed. Covered with a white bed-sheet, and moving in a stooping position, E. W. Nelson, the well-known naturalist, was able to make his way close up to the antelope bands on the grassy plains in old Mexico. At first they showed some curiosity as to the white object, but finally paid it no more attention. He tells of one old antelope buck, that, after grazing at him for a few moments, closed his eyes and apparently went to sleep, while Mr. Nelson crawled as close to him as he cared to get.

Raising antelopes in captivity seems to be a most discouraging process. Over and over again have small bunches been raised until about six or eight months old, seemingly all in perfect health and condition. Then some sad day they begin to die, and in a few days 90 per cent will be dead. Why they die, and of what disease, is as yet an unanswered question, although competent veterinarians have studied the cases very closely.

Our herd on the Wichita National Forest in Oklahoma has been built up to twenty-five head three seperate times, only to fade away like a "snowball in Hades" just when we were congratulating ourselves that they were over the dangerous period. Right now we have about twenty husky little fellows down there, apparently as strong and vigorous as animals could well be; but we are holding our breath for fear they will all "waste" on us some fine day.

FEATHER RIVER LUMBER COMPANY FIRE TRESPASS CASE

An important victory was gained by the Forest Service in a fire trespass case prosecuted by the Government in the United States District Court for the Northern District of California against the Feather River Lumber Company to recover damages resulting from a fire on the Plumas National Forest which started on August 6, 1924. In a decision rendered on February 1 the court awarded actual damages in the amount of $41,575.80, which includes $12,674.14 claimed as damages for loss of young growth, computed on the basis of cost of reforestation. The defendant company had objected to the inclusion of the latter item of damages. The court's decision on this point reads:

> "The first objection, to the sum of $12,674.14 claimed as damages for loss of young growth computed on the basis of reforestation cost, is not tenable. The Government is entitled to recover for the damage arising out of the destruction of young growth. The difference in the market value of the land before and after the fire is not available as a measure since the National Forest is not marketable. Reforestation cost is the proper basis for computing the loss."

The importance of this decision can hardly be over-estimated. Its effect will be to establish much more firmly the legal right of the Government to recover in the courts not only suppression costs and the value of merchantable timber destroyed but also the amount needed to provide for the reforestation of devastated areas. While this rule has previously been recognized in one or two cases in the courts the claim has not in any case been for so substantial an amount and none of the decisions have been published in the official reports.

THE CIGARETTE AS A FIRE HAZARD

There has been a certain amount of skepticism as to whether cigarettes cause forest fires, based on certain experimental evidence that seemed to show that they do not unless given extremely favorable conditions of combustion. A very interesting report has recently been obtained from the Bureau of Standards, which indicates that the cigarette as a cause of fires is an arch-criminal of first magnitude. In ignition tests with burning cigarette butts on pads of dry grass and with a wind velocity of 3 to 4 miles an hour, about 90 per cent ignition occurred.

The danger from cigarettes is traced to the enormous number that are discarded. The study shows that burned or burning cigarettes are discarded at the rate of 170,000 a minute throughout each 24 hours, or 90 billion a year, and the Bureau of Standards points out that only a very small fraction of these would have to meet favorable conditions of combustion in order to account for all the fire chargeable to the cigarette. As a means of reducing the fire hazard, the Bureau has made experiments with end tips made of different types of paper, cork, and chemical solutions, and promising results have been obtained which give a basis for approaching the cigarette manufacturers with a specific proposal for reducing this very large fire hazard. - W. S.

ANSWER TO "WANTED: A MOSES"

Dear Mr. Editor:

In conformity with your request, the Government Employees Mutual Relief Association, through its Governing Committee, has thoroughly considered the very potent argument in favor of the admission of women to membership made by Miss Emma Hyatt in the January 3 issue of the Service Bulletin under the title, "Wanted: A Moses."

After a sub-committee had completed a rather comprehensive examination of recent literature on health insurance, particularly with reference to its application to women, the matter was brought up for final discussion at the Governing Committee's regular monthly meeting February 7, and the purpose of this letter is to outline briefly the decision it reached and the reason therefor. There were a number of important factors considered, but, owing to the limited space available for the promised answer of the Committee to Miss Hyatt's plea, this letter will discuss only the one that most influenced it in reaching a decision, namely, the probable degree of sickness and disability that may be expected among women as compared with men. Health and disability insurance must depend on the risk assumed as calculated from the recorded experience of society in such matters. Any other basis of furnishing health and disability insurance is unsound, since the membership of the insured group can not possibly take out of their treasury more than they put into it.

Dr. H. W. Dingman in his recent work on "Insurability, - Prognosis and Selection," makes this statement:

> "The combined experience of 21 casualty companies in 1921 and 1922 demonstrated that the morbidity rate for female lives is about 70 per cent higher than for male lives . . . . . the experience would seem to indicate that issuance of health insurance to women should be undertaken with caution."

He also points out that health companies hesitate to offer insurance to women and that authorities on the subject are of the opinion that when accepted an extra premium is necessary.

The 1926 report of the Royal Commission on National Health Insurance of Great Britain indicated that for cases involving sickness for 26 weeks or less during the years 1921, 1922, and 1923, men were actually sick only 71 per cent of the expected length of time as calculated by the actuaries, while unmarried women were 76 per cent and married women 137 per cent. (Sick benefits under the British Insurance Law are allowed for 26 weeks; if an illness continues beyond that period the insured is allowed disablement benefits, the sick benefits being discontinued.)

The United States Public Health Service in studying the incidence of illnesses from important causes lasting longer than one week among 100,000 persons during 1923, found that women averaged 127.5 cases per 1,000 persons, while men averaged 95.1. (Pub. Health Report entitled "Frequency of Disabling Illnesses Among Industrial Employees.")

Similarly, it was found that among the persons insured in the German Salaried Employees Insurance System during the period 1913 to 1925 the sickness frequency is not only absolutely but also relatively greater in the case of women than in that of men - a situation also to be found in the German Compulsory sickness insurance. To illustrate, in the year 1922, the only year for which we have figures, out of a total of 1,120,358 men and 829,254 women insured, 3.39 men per thousand were treated for diseases of the lungs, while 5.70 women were treated for the same trouble. For other diseases 3.60 men per thousand were treated and 6.25 women. (See Monthly Labor Review, August, 1926, pp. 65-68.)

Statistics relating to the Swedish Sick Funds show that in 1924 the funds compensated 237,873 cases of sickness for an average of 26.3 days per case. The corresponding figures for 1923 were 210,238 and 27.3. The average duration of sickness per case in 1924 was 23.8 days for men and 32.4 days for women, as against 24.9 days and 33.1 days, respectively, in 1923. (See Monthly Labor Review, August, 1926, pp. 69-70.)

The foregoing figures indicate the general trend of health and disability insurance experience in this and other countries, and conclusively demonstrate that man has thus far proven a less hazardous risk than woman. To state the proposition in a different way, they show that women can not be extended health insurance at the same rates as men. Moreover, there are other reasons, which it is not necessary to discuss at this time, making it desirable to fix sick allowances for women on a somewhat different basis than for men. All of which leads the Committee to believe that the real remedy for the situation complained about is to form a separate association for women employees.

The Committee does not wish to avoid its responsibility in this matter and will do all within its power to aid the Forest Service women in forming their own cooperative insurance organization. If one or more of their number will assume the necessary leadership it is believed that a satisfactory plan can be worked out and put into effect, provided, of course, there are a sufficient number interested.

In conclusion we wish to say that Miss Hyatt's proposal to admit women to membership in the Association did not present an entirely new question to the Committee. It was critically examined when the Association was organized and since then has been considered on several occasions, although not so thoroughly as at this time. In its deliberations the Committee put aside all preconceived notions and reviewed the subject afresh in the light of the latest available data, some of which is summarized in this letter.

Very sincerely yours,
(signed) HARRY IRION,
Secretary.

ARE SHEEP PREDATORY ANIMALS?

The following information was reported by Ranger Walkup of the Ashley National Forest and is quoted from the annual game report of the Intermountain District for 1927.

"As far back as 1913 I heard different ones say that the trampling of sheep destroyed the nests and eggs of some of the different varieties of game birds, especially those of sage hens. The above year I was herding sheep on the Diamond Mountain, which by the way is one of the greatest breeding grounds for these birds in the State of Utah. Diamond Mountain at that time was being used almost exclusively by sheep both for lambing grounds in the spring and all summer and fall by dry herds and ewes and lambs after they came off the Forest in the fall. The spring of 1913 and part of the summer I was on this mountain and trailed up behind 21 herds of sheep. I observed closely and found large numbers of nests that were undisturbed along the main sheep driveway. I found a number of nests destroyed, however, but apparently by coyotes as their tracks were numerous around the nest, and in a few instances I found one of the old birds which had been killed and partly eaten. The nests were always found in the shelter of brush or bushes and the sheep invariably trailed to one side and around them.

"Observations in various places since have convinced me that magpies, which have been very numerous in late years, have been the main factor in keeping game birds scarce, as a number of them will watch all day for a hen to leave her nest and then get the eggs while she is gone or keep the eggs cleaned up as fast as the hens lay them. This seems to be the case in this section of the country as I have on several occasions flushed from two to seven or eight magpies out of the brush and have looked around and located a nest with freshly destroyed eggs in it, invariably."

- R. R. H.

1927 "SHOW ME" TRIPS

During 1927, 82 "Show Me" trips were conducted on 23 Forests, 17 Supervisors, 35 Rangers, the District Forester, and two Assistant District Foresters participating. Three hundred people were taken out, as follows: 9 school superintendents or principals, 2 mayors, 3 State legislators, 4 editors (in addition to the Idaho State Editors' Convention), 2 governors, 1 U. S. congressman, 4 professors, 4 physicians, 8 county or city commissioners, 1 governor's secretary, 1 State commissioner of public works, 3 county agents, 59 officials of stock organizations, 13 other stockmen, 40 fathers and sons, 48 scouts, 57 students and boys, and 30 business men.

The value of these trips is indicated by the following excerpts taken from the Supervisors' reports:

"Quieted the charge that the Forest Service is over-grazing the game preserves."

"The guest will give an illustrated lecture on his trip."

"The guest wrote an illustrated article for the newspaper."

"Guests were convinced that regulated grazing could be carried on without injury to vegetative cover."

"Very desirable contact secured with school head."

"Overcame prejudice created by antagonism on the Forest."

"Range problems settled amicably."

"Caused more inquiry as to our timber sale policy than we could have talked up in a year."

"Greater appreciation secured of the way the Forest Service is handling its work."

"Guest was surprised and pleased that so much thought and study are being given to management of the National Forest resources."

Comments by the Supervisors themselves are as follows:

"Surprised how little the average person knows about Forest Service work."

"These trips hit the right spot."

"Best means of publicity we have."

Many of the Supervisors stressed the need for planning trips very carefully in order to get the most out of them. - D. 4. Daily News.

GROWING TREES FOR FARMERS' WOODLOTS

By Geo. E. Griffith, D-6

What do you see when a report crosses your desk? A dry, uninteresting page, a gray desert of words and figures; some more "paperwork"? Or do you see the picture that it portrays?

Here is one, uninteresting at first glance; but on closer scrutiny giving a picture of cool, green lanes where were dusty roads, - of shelter belts against the bleak winds of winter, - and of farmers' woodlots where future fence posts are growing. Yes, and of embryo foresters, learning their planting and nursery technique from the soil, while contributing to the welfare of their State.

Nearly forty-five thousand two-year old trees, says the report, were sent forth for planting in Oregon from the Oregon Agricultural College forest nursery (which adjoins the Peavy Arboretum near Corvallis). This was under the benevolent provisions of the Clarke-McNary law. Ninety per cent of the trees were used for shelterbelts and windbreaks, and ten per cent for wood production.

The School of Forestry at O. A. C. runs the nursery and does an excellent job of it. The 1927 bill amounted to $5,227, half paid by the State and half by Uncle Sam.

No common firs or pines were these trees. There's history, romance, and foreign adventure in their very names. Black locust heads the list, with 11,056 transplants. Next comes Honey locust (which somehow makes one think of John the Baptist), 11,311.

Other contributions to Oregon's future scenery are: Green ash, 8,925; Russian mulberry, 8,192; Box elder, 4,418; Russian olive, 1,461; black walnut, 792.

NEW FOREST GRAZING FEES GO INTO EFFECTS

Beginning with the 1928 grazing season the grazing fees on the southwestern forest ranges in Arizona and New Mexico will be made on the new range appraisal schedule. The rates average for the Southwest 2-3/4 cents per head per month for sheep and goats and $0.96 per head per year for cattle. Only one-fourth of any increases over the old grazing rates will be charged during 1928, one-half of the increase will be charged in 1929, three-fourths of the increase will be charged in 1930, and the full fee will go into effect in 1931. Decreases from the old rates are already in effect. These fees are the result of an exhaustive study of range values made during the past seven years of forest ranges as compared with outside ranges owned and leased by stockmen for grazing purposes. Following the completion of this study by the Forest Service, the Secretary of Agriculture sent his personal representative, Dan Casement, of western Kansas, a nationally known stock producer and for many years a user of National Forest range, into the West to make a thorough investigation of the appraisal. Mr. Casement's recommendations for certain reductions in rates determined by the study were accepted by the Secretary and the Forest Service. These reductions have been made in all cases in the schedule of rates to be charged in the Southwest. - D. 3 Daily Bulletin.

GETTING DOWN TO CASES

Mr. J. F. Carter, field representative of the Southern Pine Association, reports good attendances at all his meetings of Southern Pine salesmen held in December at practically every important distributing point in the South, East, and North.

Facts and data brought out at a salesmen's conference and school held under the auspices of the Southern Pine Association at the Forest Products Laboratory last July were the basis of discussion. It is the aim of the association to have all persons handling outhern Pine accurately acquainted with its inherent properties and how it may be put to the best possible uses.

WHAT AND WHEN IS NEWS?

By F. V. Horton, Columbia

How many times we find good PR stories cropping out in the winter when they have lost their kick as a news story! We evidently need training in "news sense". Take the lightning fire at Spirit Lake last summer, for example, which was started by a bolt from a cloudless sky. That story would have easily gone on the Associated Press Wire had it been sprung at the time it happened, and how nicely we could have hung a fire warning on it just prior to the fire season!

I remember another good story which was muffed. A guard fighting fire left his canteen uncorked. Tired and thirsty he placed it to his mouth, swallowed, and was stung in the back of the throat by a yellow jacket. His throat nearly swelled shut and his arms were temporarily paralyzed. He was helpless for nearly 12 hours before help arrived.

Now, this story was not told until December when it had lost practically all its news value. There are real news stories passed up each year - stories on which we could have hung the very best of fire warnings. Can someone offer a suggestion on how to develop our "news sense"?

SAVES TIME, AND -----

By means of a new telescope the snow gauge in the Alta Peak District of Sequoia National Park is read, although it is eleven miles distant. - D. 3 Daily Bulletin.

Service Bulletin

U.S. FOREST SERVICE
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COLONEL BILL

By H. A. Smith, Assistant Forester.

The eight years that the Forest Service has been under the leadership of its present chief have been years of continuous progress. Externally, the influence of the Service has been increased, its field of usefulness extended, and its prestige heightened. Internally it has gained greatly in efficiency of organization and in clearer definition of its task, while its morale and fine tradition of service to the public welfare have been fostered and maintained. Throughout the period the confidence felt in "Colonel Bill" by all those under him - confidence in his judgment and strength, in his ability to choose and firmly keep the right course while avoiding the reefs that might otherwise bring shipwreck, confidence in his fairness, open-mindedness, considerateness, and friendliness - has steadily intensified. That he has been a truly great leader with and under whom it has been good to serve, that we one and all profoundly regret his going, and that we shall always hold for him the heartiest respect, admiration, and warm affection is, I am sure, the common thought of the entire Forest Service today.

His task has been in the highest degree exacting, difficult, and onerous. When he took charge the organization was still shaken and dislocated in consequence of the war, with a high turnover, an exceedingly meager salary-scale, and many new problems to be met. Scarcely had he entered upon his duties when a major threat to the National Forest enterprise and the integrity of the Service began to loom, in the form of plans for reorganizing the Federal Departments. This culminated in the open attempt of Secretary Fall to gain administrative control of grazing, of the National Forests in their entirety, and when that failed, of the Alaskan Forests. The question of grazing fees brought on another major struggle over the attempt to pass legislation giving the stockmen vested rights in the range. The hotly-debated policies of the Forest Service relating to recreation use of the Forests, and the adjustments required to coordinate properly the respective fields of the Forest Service and the National Park Service, created further problems for the Forester to work out. These are merely a few of the high spots in eight years of strenuous toil and constant strain, building the Service into a more and more efficient tool while beating off attacks.

These however are the things that go with the job. They are all in the day's work, and will long continue to be. It is impossible to hold in public possession and to manage for public purposes property of such value as the National Forests offer without having to be on the alert to defend them. The Forest Service must expect to be a militant organization indefinitely, with a good obligations and live up to its past. Colonel Bill has shown us, however, over and over that the ability to fight hard on occasion can be combined with an extraordinary degree of tolerance, fairness, and patience. With abounding courage and strength of purpose when principles were involved have been combined a constant desire to see both sides of every question, to fight fair, to allow no personal considerations or animosities to enter in, to avoid minor wars, and to go to the furthest possible point in the effort to substitute agreement and cooperation for combat.

Progress Within The Service

Never shall we have a leader with less of the bureaucrat in his make-up. While accepting every responsibility incumbent upon him to redeem, and while possessing a mastery of detail and ability to deal first-hand with every phase of Forest work to an extent which has been a constant marvel to all those under him, his internal administration of the Service has notably sought to encourage individual initiative, to draw out free discussion, to receive and weigh impartially every pertinent suggestion, to delegate responsibilities while maintaining close contact with what was going on and firm control of the helm, and to promote what in the absence of a better name may be called Forest Service democracy. Alike in the field and in the office solidarity of counsels, participation in planning, and the setting free of individual energy have been earnestly pursued. Thus powerful one-man leadership has been combined with the spirit of comradeship and cooperation in a common cause.

To recount in detail the great progress that has been made in the upbuilding of the Service during the past eight years would be too large a task for undertaking here. In every line of activity the gains are conspicuous. They are in evidence equally in the betterment of the business organization. in the development of a higher quality of technical administration as applied to the physical resources, and in the expansion of research. To a large extent they have resulted from the steadfast pressure to clarify objectives and to direct effort more effectively to the attainment of the specific ends thus set up. Because of the necessity for meeting enlarged demands and attaining higher standards without a corresponding increase in expenditures the path has been difficult and the effort at times almost heartbreaking; but in the development of financial control, of personnel management including recruiting and training policies and methods, in range and timber management, in far more effective protection, in land and development policies – in short, in every province of National Forest administration there have been constructive accomplishments of a most substantial character.

Ups and Downs of the Forestry Movement

As an executive and administrator it is common knowledge that Colonel Greeley has made a reputation for himself which almost places him in a class of his own; it would be hard to find a bureau chief who stands higher. But it may well be that in time his administration of the Forest Service will be thought of as notable primarily for the impetus given to what he has called the "outward spread" of forestry. Public interest in the country's forest problem has had various ups and downs. The decade of the 1870's was an important up. Rapidly expanding wood requirements, enhanced lumber prices, distinct timber shortages here and there, the widespread recognition of a need for forest planting on the western prairies and plains, the swift growth of the lumber industry in the Lake States with its heavy cut of pine, spectacular forest fires, the observed changes in streamflow and fears of climatic change, combined with a serious underestimate of the available forest supplies to create a genuine and widespread concern for the future. A considerable crop of State laws to encourage timber growing, curb fires, or initiate inquiries that might provide a basis for State forest policies soon appeared; New York entered on the path which led to its State forests; Congress passed the timber culture act; the American Association for the Advancement of Science urged provision for a Federal Commissioner of Forestry, with the result that the first foundation of what became the Forest Service was laid; and the Secretary of the Interior advocated placing all the public domain timberlands under permanent Federal administration.

This early period of activity on behalf of forestry was followed by a lull during which the enactment of the law of 1891 passed almost unnoticed. The Roosevelt-Pinchot period brought a great forward surge, with renewed public interest and apparently hopeful prospects for the inauguration of private forestry. But again the wheel turned. For a few years the main task was to hold the ground gained, ward off attacks, lay the foundations for State forestry, and gather strength for a new advance when the opportunity should come. There followed the World War; and after its storm had passed began the fresh drive for more forestry, which is still in full sweep. Since 1920 its central figure and commanding spirit has been Colonel Greeley.

A Crucial Situation

The campaign had been opened by Colonel Graves in 1918; and it soon called for decisions that were to prove pregnant in their consequences. At the outset most lumbermen took the new drive rather lightly. While they saw in it a possible menace to the freedom to which they believed themselves entitled to run their own business as they chose, they expected it to prove a flash in the pan. But soon it began to give evidence of a vitality that had to be given recognition. The country was ready once more to open its eyes to the existence of a real problem of forestry, national in scope, about which something further had to be done than merely continue the National Forests of the West and build up a few new ones covering a relatively small part of the mountains in the East The Senate called for and the Forest Service prepared the Capper Report. Work on it was well advanced when Colonel Greeley became Forester. It was necessary to lay down a program. Granted that, as the Capper Report concluded, forest depletion was the fundamental problem, what was to be done about it?

On that the foresters themselves were not agreed. Should an attempt be made to compel the practice of forestry by lumbermen, through regulatory laws? If so, should the Federal Government, or the States, be looked to for the necessary legislation? Or should the primary reliance be placed, for the time being at least, on encouragement, aid, education, and enlightened self-interest, plus such acceptance as it might be possible to obtain from the industry of some degree of responsibility for social and economic consequences resulting from destructive methods of land use?

How the matter was argued pro and con; how the legislative situation eventually became deadlocked in Congress, with the lawmakers announcing that they could hardly be expected to act while the doctors so radically disagreed on the remedy, though making the same diagnosis of the disease; and how, finding it impossible to make progress on a comprehensive program the Forester modified his plan of campaign and limited his objectives in order to concentrate the drive on the spot in the opposing lines that seemed easiest to carry: - all this is now water over the dam. The outcome was the enactment of the Clarke-McNary law. For that legislation the Forester must be given overwhelmingly the main credit, and for it and the notable advance that has been made since its enactment his administration of the Forest Service will stand out as one of the great historic landmarks of progress in the national forestry movement. But for him that law would not have been placed on the statute books; and to his wise direction is due the fact that its latent possibilities have already been brought to so large a fruition. The full measure of those possibilities remains for the future to disclose.

A Venture in Interpretation

It may not be amiss to give a moment's

thought to the characteristics of Colonel Bill which were exemplified in his leadership of this phase of the forestry movement. For one thing, it was thoroughly practical. It aimed at getting results, was prepared to take up promptly a new course when progress on the old course was blocked, was eminently openminded and unbiased, sought conciliation, and was both strategic and constructive.

The original program rested on two interlocking major premises - that equitable requirements based on a recognition of public interests affecting private forest lands should be imposed on these properties as utilities, and on the other hand that the public should do its part through aid in such forms as relief from the menace of overtaxation, the maintenance of protection, and the provision of research, demonstration, and general educational leadership. The two were linked together by making the extension of public aid conditional upon acceptance of public requirements; and a coordination and reasonable standardization of requirements was to be accomplished by the Federal Government through the offer of cooperative aid to States which should establish and maintain approved standards. This program, however, was opposed both by those who believed that regulation should be imposed by the Federal Government directly and by those who objected to public requirements, however imposed; and progress was blocked.

The Forester broke the jam by permitting the two parts of the program to be separated and thus obtained a substantial increase of the Weeks law cooperative fund for fire protection. He followed this up by bringing about the inquiry by the Senate Committee on Reforestation and by guiding the inquiry along lines which led to the Clarke-McNary law. Meanwhile, however, the question of requirements was being weighed carefully in his mind. Gradually his position shifted; and at the present time the idea of compulsion has been almost completely superseded by that of persuasion, education, and dependence upon economic conditions plus a voluntary acceptance by the lumber industry of public responsibilities for maintaining productiveness.

If a guess may be ventured, probably two sets of considerations have mainly influenced the thought of the Forester as it has worked its way through this subject; one practical, and one philosophical. From a practical standpoint, unquestionably dropping the issue of regulatory requirements out of the picture was essential if the cooperation and good will of the lumber industry were to be obtained; and very substantial results are being garnered by working with them rather than against them. The Forester has won them to a receptive attitude fundamentally because of his characteristic, patient effort to see the other fellow's viewpoint, to meet him fully half way, and to bring things to pass if possible by getting agreement and cooperation. Along with this has gone a distrust of the workability of any proposal which seeks to revolutionize deep-rooted conceptions and practices at a stroke. In short, his philosophy of human action has led him to believe that regulation to be effective must spring from clear-cut, deeply rooted public convictions, and that evolutionary, not revolutionary, processes are the means of sound progress. The following significant sentences are from his annual report for 1925:

"Forestry is at last making real headway in the United States in the shape of a gradual evolution in industrial practice and land management. To this evolution public leadership, current public opinion, and economic forces are now all contributing. National progress in forestry will from now on be measured, most of all, by the rate at which timber growing becomes part of every-day land usage. Of this outward spread of forestry there is marked evidence in current trends."

The outward spread of forestry - that in a nutshell represents the process that must be followed and the end towards attaining which primarily effort must be directed in order to bring us to the solution of our forest problem, as the whole matter presents itself to Colonel Bill. It is no policy of opportunism that has dictated his course in proclaiming this as the essence of the forestry program, but the deep conviction that there is no short cut to the goal. Not only has he placed this in the forefront of the objectives to be sought - he has himself done more than any other one man to accelerate the spread. Although he is now about to lay down the leadership of the Service, we can be confident that his leadership will continue to be exercised and his influence powerfully felt to the same end. He remains one of us, whatever he may do and wherever he may go.

ARE FORESTERS MISOSOPHISTS?

By E. N. Munns, Washington.

Apparently one never learns except through experience, and the second lesson is apt to be far more bitter than the first because of the recollections of troubles that might have been avoided. We are told that it is the part of wisdom to avoid mistakes, but we humans are so constituted with abundant optimism that hope tends to dull lessons derived from experience until reality brings us to account with a jerk. Then our conscience punishes us either because of our lack of wisdom or for our overabundance of optimism and hope.

Apparently many of us do not see the necessity of abiding by basic principles either in forestry or in our human relations; so a certain number of mistakes are made, consciously or otherwise, until the lesson is learned that for permanent happiness hope cannot take the place of knowledge or of experience. In the enlightened countries of Sweden, Norway, Belgium, Germany, Finland, Austria, France, Italy, Japan, and Russia, foresters have learned some of their lessons and are profiting thereby. In some cases it has taken more than half a century for one lesson to be learned, but in every case, decades of time have been lost, money has been foolishly expended, and revenues delayed or deferred beyond hope of returns on the investment for many years. Why not avoid one of the pitfalls that foreign forestry has pointed out besets our path?

Upon reading Fred Johnson's note in the Service Bulletin of February 13, one is inclined to answer "apparently not" and to agree that foresters are, generally speaking, misosophists. (Get out the dictionary boys!) A while back Sparhawk wrote "if you plant a tree, know its ancestors," yet we collect seed and boast of its cheapness as if cheapness were all to take into account. I do not belittle the fine work done by District 2 in helping the various States eke out their meager appropriations or in helping Gen. Lord to point out how much money he has saved to the taxpayers of the nation. Far from it! 'Tis a noble effort and deserves high mention on the good books of 1928. But, who today shall say that 50 years hence we of 1928 will be thanked because of this cheap seed? Who will tell the world as this future timber crop matures that because of our economy in 1928 the Norway forest crop of 1978 will not be what it should? Perhaps none of us who collect the seed, or, who read about it! We will be out of the picture and some other struggling forester will have to wrestle with the problems, for we are perhaps creating for him problems of slow growth, of poor form, of poor quality in his stands.

Farmers no longer plant seed wheat in Dakota obtained from Kentucky, or apple growers in Yakima apple trees grown in Georgia. American foresters apparently must learn the same way if they will not believe the results of investigations and experience. Better a pound of seed at twice the price if it came from a good source than two pounds at half the price and from the unknown tree. But the Good Book says something about our sins being visited upon the second crop of foresters, so let us sow our wild Norway pine seed for tomorrow another lot of foresters take our places!

Oh yes, Mr. Johnson, how do you plan to hold this seed over for 2, 3, 4, or 5 years? Some of us are much interested in knowing!

ROBERT W. CHAMBERS STRESSES NEED FOR FORESTRY

The American Legion Magazine for February contains an article by Robert W. Chambers on "Think Ahead" which very forcibly describes the need for an immediate reforestation program throughout the United States.

"The two most important problems for this nation to solve," he says, "are, how to grow forests sufficient for the national needs, and how to prevent the pollution of all inland and coastal waters. A sure sign of decadence of a people is the decadence of their forests. Look at your maps of Europe, Asia, and Africa. Where forests fail, people fail."

"Forests are necessary not only to give us timber for commercial use and for fuel - not only to help purify the air, control floods, store up moisture which keeps our springs and streams from drying up, offer food and shelter for wild game and birds - but to conserve and aid the fertility of the fields which grow our crops and feed our cattle."

"Hell to a southerner is a hot abode; Hell to a northerner an iceberg. To an American who has known his country before imbecility and greed destroyed it, Hell is a treeless desert set with the dead bones of murdered rivers, and washed by a sewer which was once an ocean." - Excerpts from article in Pa. Dept. Forests & Waters Service Letter.

A NEW FOREST INSTRUMENT

By Lester Reineke, Washington.

The use of artillery seems to be responsible for the latest development in instruments for use in the forest. Long-range guns required the perfection of a range finder, and the newest forestry instrument is an adaptation of this military device. Though much smaller, in principle it is the same.

This instrument, the Fardi range finder, made by Leitz, is designed for measuring distances up to 50 and 100 yards, respectively, for the 20 cm. and 40 cm. sizes. It is accurate within 2 per cent at the maximum distances, and still more accurate at shorter distances. The range finder is a black tube, square in cross-section, equipped with a 3-power magnifying eyepiece on one end, a fixed prism at the other, and a movable prism midway to which is attached a disk with a scale of distance. On looking through the eyepiece two images are seen, one yellow and the other white. By moving the circular disk the two images are brought into coincidence, and the distance can be read from the scale. The position of the instrument depends upon the object sighted on - if the object has horizontal lines the range finder is held vertically, if the object has vertical lines the instrument is held horizontally.

The measurement of distances is a common job in forestry. In mapping, cruising, measuring tree heights, etc., the range finder can often be used to advantage, particularly in fairly open country. It works less satisfactorily in very brushy places, or in dense young growth. On steep slopes it is of especial value in measuring tree heights, since the horizontal distance to the tree can be measured and no correction need be made for slope. In circular plots the distance from boundary to center can be easily checked.

In general, the range finder can replace the tape in many types of work where very accurate measurements of distances are not necessary. It can not be used under all conditions, but for many types of work it will effect a considerable saving in time with no sacrifice of accuracy.

HOFFMAN BECOMES AN ALUMNUS

By Fred Ames D-6

After nearly eighteen years in the Service, Logging Engineer Bruce Hoffman resigns on March 1 to take a position as assistant to the president of the West Fork Logging Co., of Tacoma. This company is one of the well financed progressive firms operating in the Puget Sound region.

Hoffman was graduated from the Michigan Agricultural College in 1910 and received his appointment as Forest Assistant in July of that year. His first assignment was to the Tongass National Forest in Alaska under Supervisor Langille, and there for three and a half years he laid the groundwork of his knowledge of the timber business. In the spring of 1914 he returned to the States and was assigned to the Crater Forest in Oregon where he took charge of the largest yellow pine sale in the District. In 1917 he was transferred to the District Office to specialize in timber sales, and from then on he rose rapidly to the position of chief Logging Engineer, which he has held since 1919. There his accomplishment in systematizing and directing the appraisal work along sound lines has been outstanding. The value of the government timber sold on his appraisals runs into the millions.

The Service will suffer a very distinct loss when Hoffman goes. Our only compensation is the feeling of gratification that the Service may well have when a prominent firm in the logging industry selects one of our men for an important position. We know that it helps to have foresters in the lumber industry. Personally we shall miss him greatly but at the same time look forward to a continuance of the pleasantest relations.

WHY THE PRAIRIES:

The rapid drainage at the close of the ice age has been suggested as a theory for the origin of prairies in the Middle West. An article in the December 30 issue of Science states "that it is doubtful if this theory or any other relying upon a single factor can explain very extensive grassland areas either in the Middle West or elsewhere. Treeless areas tend to develop in arid or semi-arid regions, or where, even though there may be abundant rainfall, the water table is low by reason of unusually free sub-surface drainage. In the latter instance, if indeed not in the former, the presence of a large number of grazing and browsing animals is an important factor. Starting on such 'negative cases' these animals are apparently able to beat back the line of forest, even into regions where moisture conditions are not unfavorable to tree growth". The author then cites such an area on which it appeared that the forest was held by buffalo, deer and elk, and possibly fire, but with the passing of these agencies the region is again forested.

MOUNTAIN SHEEP TO BE RECEIVED FROM CANADA

Commissioner J. B. Harkin of the Canadian National Parks Service has arranged for the donation to the United States Department of Agriculture, next fall, of 14 mountain sheep, provided that the expenses of crating and transportation are paid. It is planned to place a part of these sheep on the Sheep Mountain Federal Game Refuge in the Medicine Bow National Forest, and possibly some of them on the Wichita National Forest and Game Preserve in Oklahoma. The Canadian Department usually receives $200 per head for these animals, and this offer of a donation to this country with the provision that only the crating and transportation expenses be met, is very greatly appreciated.

WHY NOT? BOY SCOUTS DO IT

By J. R. Blake, Santiam

A fire of peculiar origin occurred at Cascadia on the Santiam, during the high water of November 25. While crossing the bridge over the south Santiam I noticed some smoke rising from the river bank, and, as it was raining and there were no dwellings close to this spot, I decided to investigate. I found that some time either last summer or last fall a large Douglas fir tree had been fallen so that a portion of the top was hanging over the river a few feet above the water and was lying at right angles to the bank. The tree was also resting against the upper side of another large Douglas fir growing on the edge of the bank. When the water had risen to a sufficient height to flow against the top of the fallen tree it caused a swaying up and down motion. The tree was on a balance with the butt free from the ground which allowed the whole tree to move up and down. The friction caused by this motion against the other tree was sufficient to generate enough heat to cause quite a smoke. Later in the day after it had quit raining, so I was told, the tree blazed up several times.

MR. HUTCHINSON COMPLETES DETAIL

W. I. Hutchinson, Assistant District Forester, District 5, left Washington on February 7 after completing a 2 months' detail in PR. Mr. Hutchinson's special jobs while here were the preparation of a "Forestry Facts" publication for American Forest Week and the overhauling of the photograph and lantern slide collections. Something like 27,000 pictures and between 2,000 and 2,500 slides have been discarded. More important than this, however, is the detailed plan prepared by Mr. Hutchinson for reclassifying the collection and building it up into what we all want it to be - a first-rate, accessible collection of good photographs fully covering National Forest and other forestry activities.

CHRISTMAS TREE CENSUS

Reports from the Forests show that approximately 23,000 Christmas trees were cut in the District in 1927. Of this amount, about 17,000 were cut on the Pike, between 14,000 and 15,000 going to the Denver market. Following the practice in effect for a number of years, reports have been secured from all of the retail dealers in Denver, which show that 35,000 trees were sold here. This is several thousand less than reports showed for the previous year. This is probably because more people secured trees from dealers outside the city limits, where no city license was required. Twenty-five hundred trees remained unsold, which is a much smaller number than remained unsold before the licensing system was put into effect several years ago. In 1927, 56 licenses were issued for retailing Christmas trees compared with 49 in 1926. The city receives $50 per license and so secures a substantial revenue from the Christmas tree business. If too many licenses are not issued, the plan really works out to advantage for it gives the city a check on the source of trees, thereby reducing unauthorized cutting in the region of the Denver Mountain Parks to a minimum and holding the number of retailers down to a point where the business is generally more satisfactory than in the old days when there was no limit on the number of persons who sold trees in the city. - District 2.

DISTRICT 3 HAS FIRST INSECT CONTROL PROJECT

The Prescott Forest is now carrying on an eradication campaign against a Dendroctonus barberi infestation, which suddenly developed a striking tendency to increase during the season of 1927. With an allotment of $2500 it is planned to treat approximately 2400 infested trees upon an area of about one township near the town of Prescott, Arizona. This is the first project undertaken to control a Barberi infestation, and incidentally the first insect control project in District 3. - Western Forest Insect News.

IT WORKS BOTH WAYS

In a recent magazine article on the Yellowstone National Park, the author writes, "No one can be angrier than a park ranger mistaken for a forest ranger, unless it be a forest ranger who has been identified as a park ranger". - Siskiyou News Letter.

LATEST ESTIMATE OF THE ONE TREE ON THE MANZANO

We cruised our tree on the east slope of the Manzanos and find it contains 33 947 M feet. - Manzano Ranger.

During 1926 and 1927 District 3 reports no fires caused by logging equipment.

Service Bulletin

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SECRETARIES OF AGRICULTURE AND COMMERCE CONGRATULATE WEST COAST LUMBER MANUFACTURERS ASSOCIATION ON ENGAGEMENT OF COLONEL GREELEY

Secretary of Agriculture Jardine and Secretary of Commerce Hoover have telegraphed congratulations to John V. Tennant, President of the West Coast Lumber Manufacturers Association, Longview, Washington, on the engagement of Col. W. B. Greeley, Forester of the United States, as secretary and manager of that Association.

Both Secretaries view Col. Greeley's new work as affording an extraordinary opportunity for constructive work in private forestry.

The telegrams follow:

Secretary Hoover -

"I profoundly regret to hear of Colonel Greeley's resignation as Chief forester but I congratulate the West Coast Lumbermens Association on securing his services. It represents a step in constructive handling of forest problems which will mean much to the whole lumber industry."

Secretary Jardine -

"I am very glad to learn of the consolidation of the associated interests and activities of the West Coast Lumber Manufacturers with view to more effective marketing of your products and bettering conditions your industry. I also believe you have taken a constructive course in selecting Colonel Greeley who has long been identified with forestry and the public interest in forest conservation for a position of leadership in the future work of your association. Successful forestry in the United States depends largely upon the stability and permanence of the forest industries. It includes sound industrial organization, sound merchandising of forest products and effective utilization of raw material no less than commercial growing of timber. These are all phases of the development of the lumber industry in its adjustment to modern economic conditions. There is no portion of the United States where all of these progressive developments are more essential from both industrial and public standpoint than in Pacific Northwest where our principal remaining supplies of softwood timber are largely concentrated. It will be a remarkably fine industrial achievement to work out the many problems which confront you in the northwest from the conversion and merchandising of your present timber holdings through to their replacement by commercial reforestation so as to attain a thoroughly sound and permanent industrial structure. This development is matter of public concern no less vital than its concern to your own industry. I believe that you have done wisely in selecting to aid you in this accomplishment a man who brings to it training and experience in many phases of forest utilization problems from standpoint of public interest. The public interest in the effective solution of these problems is identical with the permanent welfare of your industry and I regard Colonel Greeley's work with you as an admirable extension of his work for many years in the Department of Agriculture. I wish for Colonel Greeley and your association all success in this very significant and important undertaking."

THE PLACE OF WILDERNESS AREAS IN OUR NATIONAL LIFE

By L. F. Kneipp, Washington

The National Forests contain the last frontiers of the United States. Within their limits exist many areas still in much the same state as when the first waves of settlement extended into the West. They embrace many of the mountain ranges and peaks that in the early days served not only as landmarks to the pioneers but as spiritual symbols of a new world and a new life; which reflected and expressed all the moods of nature with which man must struggle for his material and spiritual advancement. For these reasons the pioneers and their descendants have regarded these rugged peaks and wild areas with a well-nigh religious veneration.

We are now conquering and subduing these wild areas by motor highways, by mechanical modes of transportation, and by the congregation of great numbers of people who will bring with them all the social and mechanical devices developed by civilization. In so doing, we destroy in large degree the attributes which make these areas unique of their kind and cause them to command the love and veneration of men. The question as to how far the extension of this process is socially or economically wise is now up for decision.

As they now exist, these areas can be visited and enjoyed only through the exercise of individual initiative and effort, of qualities of skill, hardihood, and endurance. In this fact rests largely their capacity to inspire human thought by their solitude, by their manifestations of unmodified nature, and by the sense of individual accomplishment. As they exist they meet, in a singularly peculiar and effective way, the challenge of modern life to traditions and characteristics that have endured since the days of colonial settlement. Should some of them be preserved, or shall they all be reduced to a common level with the other scenic areas in which the process of modernization has been carried to its logical conclusion?

There is no off-hand answer to this query. The predominant public demand is for the modernization of its outdoor playgrounds. The great majority of recreation seekers lack the qualities requisite to the thorough enjoyment of unmodified nature. To this class the existence of highways and other means of transportation, and of a wide array of utilities, conveniences, and supplemental means of entertainment is necessary for recreation. The great majority of outdoor recreationists will seek the areas with the greatest number of high speed highways, modern resorts, improved campgrounds, etc., and will shun areas purposely retained in an unimproved condition.

On the other hand, there is a numerically large and growing element of our population of which exactly the reverse is true. They do not ask from nature the pleasures and conditions typical of modern life, but seek rather pleasures and conditions that nature alone can provide. Their desire is not for high-speed movement over wide territories, but rather for the opportunity to contemplate the workings of nature in leisurely and undisturbed ways and to pit their strength and skill against the obstacles of nature. To this class, modernization of wild areas is destructive of the charm and attractiveness originally possessed and deprives them of the chief essentials of outdoor recreation.

It cannot be contended that the desires of this numerically smaller class should deprive the great mass of people of the forms of outdoor recreation most desired by them and best adapted to their needs. But, as a matter of fact, there can be no such result because by far the greater part of the areas adapted to outdoor recreation has been made thoroughly accessible to motorized travel and supplied with all the facilities requisite to the popular forms of outdoor recreation.

The real issue is whether the smaller class which most keenly desires the forms of outdoor recreation obtainable only in areas where natural conditions are unmodified shall be deprived of the enjoyment of such types of recreation by the modernization of the comparatively few areas within which they can be found. There is a strong possibility that this may happen unless present tendencies are checked in some localities.

A study of this issue involves more than individual tastes and inclinations, for the issue bears upon the broad problem of future social welfare. The preservation of untouched areas here and there will promote the perpetuation of certain basic qualities hitherto possessed by the American people which have always been regarded as commendable; will serve as a balance to social changes too rapid and radical. It will retard the trend away from normal and natural modes of life, by creating opportunity for habits of life which will revivify desirable national traits and characteristics. To this extent the subject passes from the strict field of land or commercial economics into the broader field of social economics.

However, the unmodified preservation of areas of outstanding scenic, inspirational, or educational value may prove in time to be sound business economy as well as sound social economy. They are few in number and unique of their kind; the qualities which contribute to their attractiveness cannot be imitated or duplicated and if destroyed cannot be replaced. Their inherent capacity to recreate physical and mental powers, to give pleasure and inspiration, to preserve national characteristics and traditions, to advance science and knowledge, all will combine to draw to them large numbers of people, who will support a widely diversified industrial and commercial structure and contribute generously to the welfare of the local population. The fact that under wise regulation the use of such areas may continue indefinitely and in large degree without impairment of their chief utility gives them a permanency as sources of local support afforded by but few other forms of land service.

The only way in which effectively to settle this question is to study it in detail in its relation to specific areas, with the purpose of deciding whether, all factors considered, there is social and economic justification for permanently retaining some unmodified natural areas within the National Forests, offering opportunity for the forms of exploration, study, contemplation, and physical activity requisite to the best recreation of physical and mental faculties, and permanently dedicated to preserving the traits and characteristics which marked the American people during the most vital stages of their national development.

In undertaking this task the Forest Service, unfortunately, does not have available any tried and tested procedure for rating or weighing the relative desirability of the various forms of use to which an area may be adapted but which conflict with one another. No accepted formulae exist by which accurately to determine the relative importance of conflicting future public needs, or the standards of economic value which in time will prevail. The problem can be approached only by a process of trial and error, based upon the analyses of social and economic trends made available by recognized authorities on such subjects.

Suggested conclusions which should be reached in making a study of this problem are:

1. The specific parts of the area which, from the broad standpoint of highest social service, should be maintained permanently in a condition of unmodified nature, and dedicated to inspirational, scientific, and educational purposes exclusively.

2. The specific parts of the area which permanently should be maintained as in the preceding category, except for an extension of the means of transportation, and the kinds and locations of the additional forms of transportation which should be provided or allowed.

3. The specific parts of the area within which, under properly coordinated plans of management, certain restricted uses of land or of its material products, with appropriate extension of transportation facilities, should

be allowed, indicating the nature and extent of the forms of use believed to be allowable without undue detriment to the other major values involved.

4. The specific parts of the area within which the use of land or of its material products, or the extension of transportation systems, properly may be allowed without restrictions other than those normally prevailing in National Forest management.

5. The specific steps which should be taken to most appropriately realize the scientific and educational values of the areas within which such values are believed to be preeminent.

6. The specific steps which should be taken to make most completely and permanently available to the people, and yet adequately conserve, the inspirational, spiritual and recreational values existing within the area.

7. The specific restrictions which should be imposed upon uses of land, or of products thereof, for individual, commercial or industrial purposes, within the areas where such uses are believed to be permissible.

8. The degree to which agencies other than the Federal Government appropriately may be asked to cooperate in or share the responsibility of carrying out the program proposed herein, with an indication of such agencies and the features of the program in which they should cooperate or for which they should assume part of the responsibility of execution.

PERSONNEL CHANGES:

Herbert B. Herms, Deputy Fiscal Agent in Accounts Office here will be transferred to a similar and newly created position at Washington, D. C. in District 7, effective March 1, 1928. His vacancy will be filled through the promotion of Percy H. Harley, Principal Clerk of the Coconino Office, who, in turn, will be succeeded by Robert J. Albers who resigned as Senior Clerk on the Sitgreaves December 31, 1926, whose reinstatement is being recommended to the Secretary.

Mrs. Si Soliloquizes on

"Spring Snow."

'S funny – it was rainin'
'Bout an hour ago,
An' now the rain is turnin'
Into a soft, still snow.

Flakes as big as feathers,
Fluffy, – white as down
Fallin' soft as cat-steps
Over all th' town.

It only seems ten minutes
Since the world all looked so bare,
But now a fleecy snow-quilt
Is a-layin' everywhere.

There's pearl massed on the clo'esline,
(No wind to make it stir)
An' th' garden fence is trimmed up
With soft white kitten-fur.

I stand an' watch th' snowfall
Leavin' my work undone
Fer I know that, like all beauty
This too will soon be gone.

So clean, so white, so silent –
Its beauty stills all pain.
An' it brings a breath o'springtime
Because 'twas born o'th'rain.

By Mrs. Fred Stell, Wife of Ranger Stell – Montezuma. From D. 2 Bulletin.

NEW CLARKE-MCNARY LAW INSPECTION DISTRICT

An inspection district under the Clarke-McNary law has recently been established in the Central States, the headquarters of which will be at Louisville, Kentucky, with Mr. E. M. Bruner as District Forest Inspector in charge. The District will include in addition to Iowa the States of Missouri, Illinois, Indiana, Ohio, Kentucky, and Tennessee.

AMERICAN FOREST WEEK ACTIVITIES

President Coolidge on February 24 signed the proclamation setting aside the week April 22-28 for nation-wide observance of the annual "American Forest Week."

The organization of American Forest Week in the States is proceeding at a rate very much ahead of any former year, acceptances having been received from practically all of the State Chairmen.

Officers of the American Forest Week Committee for this year are as follows: Theodore Roosevelt Jr., General Chairman; O. M. Butler, Executive Secretary, and Miller Hamilton, Manager.

Considerable activity along radio lines is being planned for American Forest Week this year. The President has consented to read his proclamation over the radio on Monday night, April 23, at 8:00 p. m. eastern standard time, and the National Broadcasting Association will furnish a national hook-up (excluding the Pacific Coast) for a Forest Week program at this hour. The remainder of the program has not yet definitely been decided upon. In addition to this national hook-up and local radio programs which will be arranged by the committees in the various States, several radio features are scheduled to go on the air from the 120 odd stations regularly carrying Department of Agriculture programs. These will include a radio farm school talk on protecting farm woods, a young folks program on forest fires, a talk on wild life of the forests and various short expositions and announcements in connection with the Department's "Farm Flashes" and "Farm News Digest."

Canada will observe the week concurrently with the United States, as it has for the past two years. Arrangements are being made for exchange meetings with Canada in a number of large cities in the United States and the Dominion. Prominent foresters, conservationists, and lumbermen of the United States will appear as speakers at Canadian meetings, while a number of Canadian officials will appear at meetings in this country. The meetings will be sponsored by interested organizations in the various States with the help of the American Forest Week Committee.

Fifteen copies of the new film "Forests and Health" have been offered to the Will Hays organization for distribution in the larger theaters. Last year they showed the film "Forests and Water" in a number of their first-class theaters in the larger cities like Detroit and Cincinnati. All other Forest Service films have been reserved for American Forest Week for the use of our own people and organizations cooperating with us. Requests for reservations should be made to the Washington office as soon as possible.

The Forest Service will print 1,000,000 pieces of literature for distribution during the week. This will include 250,000 copies each of the pamphlet "Forestry Facts," program for schools and club meetings, the President's Proclamation, and a forest fire prevention card. The American Forestry Association is printing especially for the week a poster, the design for which was prepared by the Forest Service, showing how a tree grows and carrying a tree planting slogan. The Association will have in addition a considerable list of posters, leaflets, and other material for distribution. One of the items is a supply of Miscellaneous Circular No. 98 of the Department of Agriculture, "The Forest - A Handbook for Teachers," which the Association will distribute at 15¢ a copy. Applications for all this material should be made direct to the Association. The National Lumber Manufacturers Association is preparing a pamphlet on industrial values of the forest, suitable for schools, Boy Scout and 4-H clubs, as well as for adults. Also, the American Forest Week Committee is getting out a leaflet showing the organization and membership of the Committee and giving hints on methods of observing the week. The supply of this leaflet will be limited, since it is intended only for State and local leaders and not for general distribution.

A CARNIVOROUS COW

A German newspaper tells of a carnivorous cow found near Bremen. Discovering a crate of geese standing before the barn, the cow dropped the hay she was chewing, edged her way to the crate, and had devoured five geese before the farmer noticed what was happening. D. 3 Daily Bulletin.

DESIGNING ROADS FOR A GIVEN SPEED

By T. W. Norcross, Washington

The October 31 issue of the Service Bulletin contained an article by Assistant Engineer Wright on the curve studies and tests made last summer at the Pedlar River plot in the Natural Bridge Forest. Doubtless a considerable number of the readers of this article used the words of the Black Crow "Who cares about that?" , "What difference does it make?". As a part of investigative work that is slowly being advanced, the safe speed on different road widths and curve radii, with different cars, and with varying bankings of the road surface is a most important determination. The Forest Service engineers are very much interested in the curve tests; all others in the Service, who want roads should be equally interested since the objective of the investigation is adequate transportation service with safety and reasonable comfort and at the lowest annual expenditure.

It is to be expected that some in the Forest Service will scoff at the statement that the curve data are of value. Probably many more will fail to see any relationship between the curve data and transportation service. The Editor hopes that this condition exists since otherwise there would be no excuse for this series of articles and he would have to look elsewhere for Bulletin material. While a thorough understanding of the engineering investigation makes necessary a rather detailed treatment, it is hoped that the subject may be sufficiently interesting to hold the majority of Bulletin readers from start to finish for not only do we want you to have that thorough understanding but we want your help in getting data necessary to the completion of the investigations. It may not be possible to get all the data that the investigation calls for but if it can be obtained, the engineers will get it eventually. But we want it now and not after we are dead; others can help materially in getting data if they desire. It is hoped the desire exists.

What at first glance appears to be irrelevant may be the best way to start in on this explanation.

In these days everyone drives a car from the front or back seat. As a result nearly every one feels fully qualified to speak with assurance and conviction on what kind of a road is needed or what should be done with a certain road. The experts on highway engineering seem not to be confined to the highway engineers. Be frank; while you have listened patiently and tolerantly to the opinions and plans of others, haven't you very frequently thought that your own judgment was a bit better? Some claim that real knowledge of how to locate and construct a road is lacking. That seems an extreme view. Nevertheless it must be acknowledged that there is much that is not known. Especially are data needed on the lightly traveled roads which must necessarily be low in cost of construction and maintenance. Contrary to the general public, the Forest Service is primarily interested in that class of roads.

The arguments on standards that nearly everyone in the Forest Service knows about and probably has participated in to a large extent are not confined to the Forest Service; this condition is widespread. The Forest Service discussion was based primarily on the "9 Foot Roads" and the standards of the roads constructed by the Bureau of Public Roads. Both have had and still do have ardent supporters. Many in the Forest Service have occupied the unenviable position of giving whole support to neither one nor the other and have themselves been unable to agree on standards. One difficulty has been that two roads constructed under identical specifications but under different supervision would sometimes resemble each other as closely as black and white. Another difficulty has been in definitely determining and really knowing what conditions the "9 Foot Road" would satisfactorily serve and on the other hand what should be done if the entire control of standards were vested in the Forest Service. It was perfectly clear that if application of the "9 Foot Road" plan in all places and under all conditions were right, then the B.P.R. plan was wrong. The reverse was of course equally true. The general feeling was that each was all right in its place but the difficulty lay in deciding this "place".

Under what conditions is the 9 foot road width, ample or too narrow. If the standard of sustained grade on the B.P.R. road is too high what should be the specifications? If the radius is considered too short or too long, what length is right? How can the specifications be drafted so that regardless of who constructs, the results will be the same and what is wanted? These are all proper questions and they should be answered but so many factors and complications are involved that the writer after much consideration and many arguments believes that it is impossible to prepare a set of specifications under the present practice which would satisfy him and which would promise acceptance by others and a settlement of the controversial matters. The kind of road he would have in mind might be identical with what all others would agree is needed to meet certain needs but his specifications of this road in terms of width, minimum radius, maximum gradient, etc. would to the others describe an entirely different kind of road. Not only must more and better knowledge be secured but the whole question of standards must be approached from an entirely different angle. The required work is under way.

(We are just getting nicely started and the Editor says we must stop. More next week).

SETTING 'EM STRAIGHT

By Jno. D. Guthrie, D. 6.

The Chelan Forest did a good information job in December when it prepared a press release for local use as to what Forest Rangers do in the winter time, and the items seem to have been used by all papers receiving them. It was a statement of some of the many things that we all know that Rangers do do, but which the public apparently knows absolutely nothing about. Care, repair, and maintenance of fire tools and equipment, as well as conferences with stockmen, securing grazing applications, etc., were very properly stressed, rather than preparation of reports. Here's a practical suggestion for other Forests!

ANNUAL MEETING OF THE AMERICAN FORESTRY ASSOCIATION

Forests and floods, industrial forestry, and land use were the most discussed topics at the 1928 annual meeting of the American Forestry Association at St. Louis, Missouri, February 17 and 18, held jointly with The Missouri Forestry Association.

Colonel Greeley was unable to attend the meeting but prepared a paper, which was read by R. Y. Stuart. Colonel Greeley in his paper declared that, while the immediate need in the Mississippi basin is for the engineer, a specific program of forest restoration and extension is necessary to the ultimate control of floods. "There should be no exaggerated notions of what forestry can accomplish in controlling the behavior of streams," he stated, "and no unwarranted assumptions that forestry, or any other form of land use, can take the place of engineering structures in protecting areas subject to overflow from the flood discharges which must always be anticipated in the Mississippi River."

The afternoon session on the second day was devoted to the discussion of public education, forest fire prevention, and timber growing. The program for this session included: "Woods Burning as a Problem in Public Education," "Methods of Public Education for the State," "Methods of Public Education for the Timber Owner," and "Uncle Sam's Traveling Educational Project in Arkansas."

The American Forestry Association awarded a "Forestry Cup" to the Western Forestry and Conservation Association, Portland, Oregon, for the best forest protection and reforestation poster exhibited at the meeting.

A number of very interesting topics were discussed at the meeting, excerpts from which will be given in future issues of the Service Bulletin.

NEW FOREST SERVICE FILM RELEASED

"THAT BRUSH FIRE" will not get beyond control when the farmer sees our new short reel motion picture of that name which has just been released.

It is a film book of rules governing brush burning, that necessary and seemingly harmless operation which often results in disaster when the fires spread to nearby woodlands. Each step in the proper method is pictured as an interesting feature and photographic evidence of the cost of carelessness is also portrayed.

The film is 400 feet in length and requires less than five minutes for projection. District 7 has ordered sixteen copies for use by their field men, and seven copies will be available for distribution from this office when prints are received from the Laboratories. State Foresters and other forestry organizations can use this film to advantage. Its scenes were obtained in Virginia.

We believe each of the Districts should see this film and determine for themselves what can be done by means of the motion picture in presenting the various phases of our work. Copies should be available by March 15.

ELI DALE, VETERAN LOOKOUT, DIES

By W. S. Brown, Modoc

The Modoc mourns the passing of Eli Dale, veteran lookoutman of the Modoc Forest, who died at the Rideout Sanitarium at Marysville, Feb. 7, 1928.

Born at Paris, Mo., Jan. 2, 1852, Dale came to California at an early age and played a pioneer's part in the development of the northeastern part of the State as teamster, stockman, and miner. When the Modoc Forest was first created he commenced to work for the Forest Service as temporary laborer and on the establishment of Happy Camp Mt. as a primary lookout in 1911, he assumed duty there, filling that position each season till his death.

Dale occupied a position in the protection system of the Modoc second to no officer's place. In his 17 years of service, he left his station but twice for periods of one day at a time. Fires burning anywhere within the scope of his lookout station were an individual responsibility to him, and during a bad fire concentration, night was the same as day. He made it his business to know where each and every protection man was located at all times, and timepieces of the protection force were set to his punctual morning and evening phone calls.

The Modoc force both present and past will attest the fact that Eli Dale was very much of a man all the way through and at all times. His faithfulness and industry and his unswerving loyalty to the cause will be written deep in the history of the Forest Service in this section of California, and deep in the hearts of all of us will be engraved the memory of a man who did his duty one hundred per cent perfect at all times.

MILLARD COUNTY TO HAVE TREE PLANTING PROGRAM IN SCHOOLS

Ranger Bert L. Robins recently met with the County School Superintendent of Millard County and as a result of this meeting the Superintendent decided to work out a plan for the schools to plant a tree next Arbor Day for each person living in the County. There are 6000 people living in Millard County. To crystalize the plan and get it working, the Superintendent has called a meeting of all the principals of schools to be held in Fillmore December 17. An invitation has been extended to Supervisor Mattsson and Ranger Robins to be in attendance at this meeting and furnish information as to the kind of trees most suitable for planting in Millard County. - D. 4. Daily News.

Service Bulletin

U.S. FOREST SERVICE
(Contents Confidential)

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COLONEL GREELEY ANSWERS IMPORTANT QUESTIONS

In reply to a letter from Mr. Axel H. Oxholm, Director, National Committee on Wood Utilization, Department of Commerce, regarding timber supply and timber use in relation to industrial reforestation, Colonel Greeley writes:

"I agree fully with you that national interests will benefit far more by vigorous encouragement of timber growing than by hoarding the timber we now have. This is not only because a liberal use of wood is essential to our industrial and construction requirements and to high standards of living; but also because vast areas of land in the United States can profitably be employed only in timber culture. Without timber growth, one-fourth of our soil will be largely without means to pay taxes, support communities, or maintain industries and commerce. The disastrous economic and social effects of the idleness of potential forest land are already felt in several regions. Hence every reasonable incentive for farm and industrial forestry should be provided.

"Timber growing, as you point out, is primarily an economic process. If it does not pay, forests cannot be widely and generally produced. To make it pay there must be an adequate market for forest products. Hence it is clear to me that liberal use of wood will promote forestry and the profitable employment of our forest land. The constructive solution of the whole problem lies in timber use and timber culture, each backing and sustaining the other.

"This solution, of course, depends upon general reforestation as an integral part of timberland ownership and logging operations. Without that, we will be burning the candle at both ends. The danger of a timber shortage arises from the large areas of cut-over land which have been left unproductive by destructive logging and fires, while the cutting of virgin stumpage has gone on apace. I believe that the United States is making real, though slow, progress in curing this situation, partly through public effort in such directions as systematic protection from forest fires and partly through industrial and farm forestry on an expanding scale. The growing interest of land owners in reforestation and the increasing extent to which it is being applied, although still far short of meeting the situation, are encouraging. I believe that we must put our faith in it as a real solution of the national problem and direct our efforts toward speeding it up to the greatest possible degree.

If all our available forest land can be put into productive timber culture, the United States can sustain and, in time, even expand its present consumption of forest products. How serious a timber shortage we may experience will depend mainly upon how rapidly reforestation is extended and how effectively timber growing is incorporated in industrial land management. Personally, I do not see that we can avoid a period of shortage of at least high quality, old growth timber, though I am unable to forecast it in specific terms. However, I do not believe that this probability should influence the course of public action or public thought in seeking a solution of our problem through the maximum encouragement of reforestation rather than through resort to timber hoarding. Necessarily a long time will be required to work out our situation to one of real stability, when the current regrowth of timber offsets its current use. But we can and should balance the ledger in this fashion without denying to the country a liberal use of wood. On the contrary, a continued liberal use of wood alone will create the values and sustain the markets for forest products that are essential to industrial forestry. I agree with you that abstention from the use of timber will not help the cause of forest perpetuation.

Furthermore, like any other crop, timber becomes a partial or total loss if not utilized when mature. Such waste of natural resources benefits no one. The orderly and systematic working of timberlands will put into the channels of industry and commerce much valuable material which would otherwise be lost through insects and decay. There is still an enormous wastage from these sources in our virgin forest areas, a wastage that can largely be prevented as systematic timber growing and timber harvesting are brought about.

To work out our timber and forest land problems along these lines still requires a great deal more than is now being done. There should be no delusion that the problem either has been solved or that it will be solved in any adequate way if things are simply left to take their own course. Protection of forest areas from fire is not yet one-half adequate. The taxation of forest lands is still largely unadapted to the time requirements of timber culture; and in many instances is a positive deterrent to the practice of forestry. Responsibility for meeting these requirements of the situation rests largely with the public.

Closer utilization of timber will make forest crops more valuable and hence encourage their production. All that can be accomplished in this field will be a powerful stimulus to forest perpetuation. While this is largely an industrial problem, its solution can be materially aided by the research of public agencies and by the promotion of more effective utilization through such admirable work as that of the National Committee on Wood Utilization.

Responsibility also rests, in my judgment, upon forest industries and land owners to progressively extend timber growing as part of their operations. There is an obligation for industrial leadership and foresight in working out this national economic problem. The future of our forests rests largely with the commercial interests which own and convert them. Success in solving our forest problems rests primarily upon the rate and degree to which forestry is incorporated in industrial timberland management. Gratifying progress is now taking place in this direction in many instances. While we cannot ask the private forest owners of the United States to undertake a business course that is economically unsound, we may rightfully look to them to thoroughly study the business possibilities offered by reforestation and to give their earnest support to industrial as well as public developments of this nature. It is an essential part of the effort now being made by the lumber industry to create greater market stability and encourage the use of wood as a commodity permanently available to the American consumer.

Unlike many of our natural resources timber can renew itself. Its right use does not exhaust the supply, but perpetuates it. In the long run, indeed, right use increases the supply, for it speeds up growth. The lumber and other forest industries can and should be perpetual. In the past they have largely followed the wild forests as these have receded before the plow and the ax, and have thus often been shifting or temporary. But they are in no sense dying industries; and with agressive reforestation and closer use of raw material, they can not only be made permanent but will yield a greater output than at present.

Your letter refers to the strong public sentiment for forest preservation as an element of outdoor beauty and recreation. I am a thorough believer in the preservation of beautiful and distinctive forests for public enjoyment as parks or recreation areas. This obviously should be one of the functions of public ownership, Federal, State, or municipal; but the total area solely thus preserved for its scenic beauty would at the outside include but a small fraction of our 470 million acres of forest land.

The bulk of our forest land must be devoted to commercial timber growing. Here the public interest in outdoor beauty and recreation will be served by precisely the same development which serves the economic needs of the country. This is evident today in many portions of New England as well as elsewhere. General reforestation, with the harvesting of timber under methods that insure continuous growth, will preserve and in many cases restore the attractiveness of rural landscapes, the native fish and game, and widely available opportunities for outdoor recreation. The economic benefits from timber use and general timber replacement are as one with the social benefits from forest perpetuation, and any course calculated to promote the former will to an equal degree conserve the latter. I believe that this relationship between commercial forestry whether on public or private lands, and the outdoor interests of the country will become more and more generally appreciated, especially as the manufacture of timber products loses the stigma of forest destruction and is clearly associated with forest renewal.

JARDINE VISITS JORNADA

Director James T. Jardine, of the Oregon Agricultural College Experiment Stations, visited the Jornada Range Reserve on Sunday, February 26. Mrs. Jardine and Mr. and Mrs. Emmet Isaccks of Las Cruces accompanied him.

A BOLT FROM THE BLUE

By A. I. Wang, Columbia.

According to newspapers last summer, the Rock Creek fire on the Columbia Forest, which was started by lightning, burned so fiercely that it picked up whole logs and trees that were afire and scattered them over the hillside, one of these landing across the Columbia and starting a fire at Herman Creek in the Mt. Hood Forest. This we believe, but what if someone told us that they saw a flash of lightning come out of a clear sky and start a fire - well, this is exactly what happened near Spirit Lake at 6 p. m. on June 26, 1927.

This rare phenomenon was seen by Lige Coleman, of the Y. M. C. A. camp, and reported to the ranger station, where six men stared in awe at such a freak fire. The day was perfectly clear, and no thunder was heard. In fact, we know that there wasn't any, but we also know that the lightning set a fire, as the smoke was visible for about an hour on Mount Margaret where it struck.

The get-away time on this fire wouldn't look very good in print for no men were dispatched to it because of the fact that there was from four to six feet of snow on the ground and the humidity was very high. What would happen if all lightning storms were like this one, coming out of a clear sky, and giving no warning whatever?

Some very queer things happen in the Spirit Lake district. Only a few years ago wild apes caused a certain Ranger several sleepless nights and had them all sort of looking over their shoulders while traveling through the forest. It is also noted that our Supervisors rarely visit this country and, when they do, stay for only a day or two. I guess it must be true, as the Indians claim, that there are spirits in the Lake.

On lands in the State of Washington west of the Cascades and not included in National Forests, 88.7 per cent of all the timber killed during the fire season of 1927 was killed in the period when the relative humidity went below 30 per cent, the Washington Forest Fire Association reports. This same period saw the destruction of 74 per cent of the logs destroyed during the season. The danger period was from July 16 until August 25, with a break on August 19.

TURPENTINE DAMAGE IN SLASH AND LONGLEAF PINE STANDS

By V. L. Harper, Southern For. Exp. Sta.

Under the old methods of working slash and longleaf pine for turpentine enormous losses occurred. Slowly the old methods have given way to more modern and improved ones: "boxes" formerly hollowed out at the base of the tree to receive the crude gum are now replaced by gutters and cups; yet a great deal of the destruction formerly wrought still prevails. This is due in a large measure to the very injurious methods of chipping which needlessly hack away the wood, either through carelessness or from the idea that the bigger the wound the greater the yield of turpentine.

However, this destruction is not inherent in the method as is well demonstrated by the Forest Service in actual tests as well as by some of the progressive turpentine operators. When conservative and careful working is done the trees not only have a low mortality percentage, but the yield of turpentine is also greater over a period of years.

An analysis of mortality records kept by the Southern Forest Experiment Station at Starke, Florida, shows for a stand of second-growth trees conservatively worked that the average annual loss from turpentining is less than a half of one per cent.

THE ADVISORY COMMITTEE SERVICE

The February 20 issue of the Service Bulletin contained an announcement regarding the recently elected Advisory Committee of the Washington office which is to serve until March 1, 1929. For the benefit of those not familiar with the purpose of the Committee the item should have stated that it was originally appointed by the Forester in 1920 to act in an advisory capacity in the preparation of the efficiency register for the Washington office and in the formulation of standards for measuring and rating efficiency. In 1922 the Forester authorized the selection of the Committee annually by a vote of the employees themselves. He also broadened the scope of the Committee's activities so that it might be called upon for recommendations, advice, or assistance in all matters concerning the Washington office personnel, including welfare work, the promotion of efficiency, improvements of office practice, securing observance of administrative regulations, and similar matters. The Committee was also authorized to take up and consider on its own initiative any question concerning the welfare and efficiency of the Washington office personnel.

The Committee just selected is the eighth since it was first created and the seventh to be elected by the employees.

RETIREMENT

The Civil Service Commission's decision with respect to the recommendation that all field-going officers and employees of the Forest Service be included under the 62-year limitation provided for in the Retirement Act was adverse. The Commission had previously approved the inclusion of Forest Rangers and certain employees at the Madison Laboratory, and declined to go beyond this for any special classes of employees. After the first decision was made the attention of the Commission was called to certain classes of our National Forest officers and of administrative and technical officers and employees who have to travel and work on the Forests under precisely the same conditions as the Rangers. In its present decision the Commission says that few of the members of the Service of these classes are anywhere near the 62-year limit, and that in its view of the intent of Congress which, (in the terms of the report of the committee recommending the legislation, contemplated "certain small groups") the Committee's authorization of the 62-year age limit should be kept within narrow bounds, having in mind the unwisdom of arranging for a vast potential ultimate draft upon the retirement funds, not immediately necessary, while the Retirement Act is in its formative stage as to scope of application, years of service, maximum annuity, per cent of deductions, optional or compulsory retirement ages, limitations on continuance, etc. The Commission does not believe that the framers of the 62-year provision contemplated whole classes of technical, professional, scientific, and supervisory employees. It holds that officers and employees of these classes, even when continuously employed in the field, should be placed in the 62-year group, if at all, only individually on the basis of individual duties and not by general designation; and that this statement applies with greater force to those who are only engaged intermittently on field work and not during the entire year. It says that the proposed assignment to this age group of those who merely make field trips of administrative control and inspection during the field season seems to have no adequate basis in the duties performed.

A BATTLE OF WORDS

The Chief Clerks of D.3 recently held a five day conference at District 3 headquarters, Albuquerque, N.M. At least, the advance sheets of the affair called it a conference.

Albert Morris, the genial District Fiscal Agent of D.3, was in charge of the affair acting as Chairman, and I hereby accuse him of changing this "conference" to a "Battle of Words."

Albert, you know, used to be a schoolmaster, and the way he started slinging strange sounds around that room right from the jump was not just exactly right. Chief Clerks are pretty good fellows, but out in the sticks where they are usually sentenced their ears are not attuned to the heavy syllabical detonations emanating from the orifice connected with Albert's vocal cords. 'Snofair!

Your reporter has withstood many heavy word bombardments but Albert finally floored him with "exegesis". He had to consult Mr. Webster on that one.

Dillon, of the Tusayan, was getting madder all the time, so finally he went up on top of Bill Williams Mountain and grabbed "purview" off the top of the lookout tower.

Harley, of the Coconino, evidently had been reading up on the League of Nations and sprung "mandatory" on the assembly. And in some of the resolutions adopted at this--well, call it whatever you think best--"mandatory" is quite freely used.

Costello, of the Sitgreaves, was observed busily grabbing these strange sounds off the air and inscribing them in a little book. May the Lord help the natives of Holbrook when he wafts them on the desert winds thereabouts.

But taking the conference by and large, Mr. Editor, I believe considerable benefit was derived both by the Chief Clerks and by the District Office men who were in attendance. Many important points that affect not alone the Chief Clerks but the Service as a whole were very intelligently threshed out. These Clerks proved to the assembled multitude that they "know their onions."

I overheard only one complaint. One of the Clerks remarked to a beautiful woman that all clerks were single for the reason that Uncle Sam automatically barred them from getting married because of their financial limitations.

"Stoobad!

One of the Clerks.

TRADING IN A CIRCLE

We read of an unusual transaction down in Texas a short time ago. A cattleman in the Panhandle contracted some time ago a string of heifer calves for $30.00. The buyer sold his contract for $37.50; then bought it back for $40.00. Later the man who raised the calves and originally sold them for $30.00 bought them back at $42.50.-D.3 Bulletin

DESIGNING ROADS FOR A GIVEN SPEED

Part 2

By T. W. Norcross, Washington

Just why do we need roads? Critics may say that a road which to them seems unnecessarily good or expensive was constructed by the engineer as a momument to himself. Others may claim that maintenance work is done to give some one a job. But obviously neither is the real reason why over a billion dollars yearly is expended inconstruction and maintenance.

A road is not an end in itself; it is necessary to transportation; it is a service to traffic and to property. The road should be fitted to the character and amount of service that it must render. It should render the required service at the least cost. The character and amount of service vary widely. The total expenditure on a road should not exceed the estimated economic return; discussion of economics will not be included in this series of articles - that is a story in itself.

If the road is to be designed to render certain service, how can this service be measured and expressed?

Probably the most accurate measure of service is the cost, this including not only the operating cost of the car or truck and the value of the time of the travelers but also the maintenance, interest and retirement costs of the road itself. Such cost is not easy to determine. From the standpoint of the National Forests and with the exception of timber utilization roads, a satisfactory measure of service is the time required for travel or, in other words, the average speed of travel with safety and reasonable comfort. (The same measure seems equally well adapted to a large portion of the public roads especially during these days when cost is of so little concern and the main thought is time). The approved method of describing a Forest road is no longer in terms of width, grade, curvature or what not, but the average speed of travel that the road makes possible with safety and a reasonable amount of comfort.

What is meant by "safety"? Absolute safety can be attained only if the road is not used at all by pedestrians and vehicles. Also standards and expenditure can not be based on the reckless and foolish driver. A road a mile wide would not be safe for him for like as not he would confuse width with length. If he drives as if seeking death, that would be his concern only if he were not carrying unhappy and helpless passengers or were not a liability to other users of the road. The other fellow must be given a chance to save himself from collision or destruction. "Safety" then as it affects road design refers to the sane driver of somewhat less than the average skill; his requirements should be provided for and a factor of safety added.

"Reasonable comfort" does not mean the smoothness of the finest of asphalt or concrete surfaces or of hard packed beach sand. Neither does it describe the swaying, bumps, jolts, throws, etc. of the road not built for auto travel but so used. Reasonable comfort is in between these two extremes but nearer the first than the last. Specification could be made of number of bumps, etc. per mile or the distance traveled or time spent off the seat. But that isn't necessary.

If we are to express service in terms of speed and provide roads that will render adequate service, the road must be such as to provide the required speed.

WOODS BURNING AS A PROBLEM IN PUBLIC EDUCATION

Mr. S. F. Horn, Editor of the Southern Lumberman, in his address at the annual meeting of the American Forestry Association at St. Louis said:

"Woods burning in the South may be divided broadly into two general classes, namely, the accidental and the purposeful. Accidental woods fires usually start from either carelessness, lack of interest in preventing them, or because people do not know that burning hurts the woods. In truth, this third cause probably includes the first two, since carelessness and lack of interest in preventing fires is probably directly due to people's not knowing that burning hurts the woods. Education, therefore, is the first essential in making the public acquainted with fire damage in the woods.

"The stopping of fires which are deliberately set in the South involves a different form of education from that. It is not merely a matter of correcting the carelessness of some thoughtless person. That this phase of the problem is particularly acute in the South is shown by the figures compiled showing the forest fires by causes and regions based on a ten-year average from 1916 to 1925. These figures show that of 9,440 incendiary fires in the United States, 5,156 occurred in the Southwest alone. In this region it has become a firmly fixed habit to burn the woods every year for the purpose of supposedly improving the grazing conditions.

"In my judgment, a great percentage of the forest fires comes through sheer lack of knowledge of trees and forests. It is my belief that when people know even the elementary facts about trees and forests they will not burn the woods, maliciously or through negligence. Education should begin in the schools with the children where they are taught primary facts through which they learn to respect trees singly and in groups. The child thus learns that trees are not objects merely to stand around and not to be used, but he also learns that trees serve their purpose in being utilized, and that provisions must be made for expediting the growth of more trees.

"Public education is necessary before forest fire laws can be enforced. Law enforcement is commensurate with the attitude of the people towards the law."

TEAK HAS GREAT ELASTICITY

Because of its great strength, elasticity, and marvelous durability, teak is considered by the United States Forest Service, as the most valuable wood, commanding a price of nearly $1,000 for 1,000 feet. (Dearborn Independent)

FORCING COMPRESSED AIR INTO THE SOIL TO RELIEVE ROOT SUFFOCATION

By Bernard S. Meyer
Central States For. Exp. Sta.

An interesting application of the principles of plant physiology to the transplanting of trees has recently come to the attention of the staff of this station. A Cleveland commercial firm, engaged in the business of transplanting trees of some size for shade and landscape purposes, encountered considerable difficulty in securing a satisfactory survival of the trees moved. This difficulty persisted in spite of careful attention to all the known precautions necessary to the successful transplanting of large trees.

After consultation with botanists of the Ohio Agricultural Experiment Station, it was decided that the trees which did not show a vigorous recovery after transplanting were suffering from the lack of a suitable supply of oxygen in the soil. A method was therefore devised whereby, by means of a suitably designed nozzle, which could be forced into the soil to the required depth, compressed air could be supplied to the soil. This method was also effective for trees growing or planted on lawns. The roots of the densely matted grasses which make up the sod apparently release such large quantities of carbon dioxide in respiration, that the supply of oxygen in the soil is proportionately reduced. This results in a suffocation of the tree roots, which in turn disturbs the absorption of water, thus exerting an injurious effect upon the entire tree.

The pumping of air into the soil around the roots of such trees has been found to have an almost immediate effect in relieving such conditions.

ELECTRIC LIGHT PLANT AT BESSEY NURSERY, D-2

An electric light plant was installed recently at the Bessey Nursery and Nebraska Forest headquarters. "Better late than never" might well be remarked, for when the Silver Anniversary of the establishment of the nursery and forest was celebrated last June, kerosene lamps furnished the illumination, as they did in the old days when W. H. Mast, Charles Scott, Fred Besley, and others were doing the pioneer work in Nebraska sand hill planting.

For the information of nurseries and experiment stations contemplating the establishment of light plants, the following is given: The plant is a Kohler automatic of 5,000 watt capacity, 220 volts direct current. There are two 24 volt starting batteries of 20 amperes each, and a 100 gallon gasoline tank for supplying fuel.

Seventeen buildings are lighted from the plant, ranging from 1 to 27 lights per building, and the total number of lights at maximum use will be about 100. The maximum use will bring the load up to 4,675 watts, but it will not average more than 3,000 watts ordinarily and 1,000 watts during the winter. Most of the buildings are grouped fairly close together except for one which is 1,600 feet from the plant. There are 2,929 feet of electric light line, #4 bare copper wire being used.

The plant and necessary accessories cost $1,069.05; wire, fixtures, and labor cost $867.66. The total cost is $1,936.71. In addition to the convenience of electric lights, they eliminate a great deal of the fire danger connected with the use of kerosene lights in crowded bunk houses during the spring when 40 to 50 men are employed at the nursery. - District 2.

TWO NEW NATIONAL FORESTS

District Two is undertaking the acquirement of two new National Forests in the Upper Peninsula of Michigan. These two purchase units were approved by the National Forest Reservation Commission on February 18 and comprise, altogether, somewhat over 400,000 acres. The approval of these units was delayed because certain members of the Commission believed that the purchase of any lands not directly beneficial to the protection of the navigability of navigable streams represented a questionable departure from the established policy under the Weeks Law even though authorized by the Clarke-McNary Act which provides for the purchase of land for National Forest purposes where timber production is the objective to be served. - District 2.

ADVERTISING DELUXE

By Jno. D. Guthrie, D-6

The Mount Baker National Forest is getting some unique advertising nowadays. First, in a highly colored pamphlet issued by the "Puget Sound Hotels, Wash., Affiliated", there are colored pictures of Mount Shuksan, the road to Heather Meadows, Sunrise Lake, and Mount Baker Lodge, besides references in the printed matter to the Mount Baker Recreation Area, the Mount Baker National Forests, its scenery, beauty, etc.

Then the Northern Pacific Railway has recently issued a very elaborate folder, entirely pictures, of scenic beauty spots in the Heather Meadows, Mt. Baker and Mt. Shuksan country, with several references to the Mount Baker National Forest, the name of the Forest being printed in heavy type as the title to the pamphlet. Also, last summer the Fox Film people shot an outdoor movie story in Heather Meadows, called "Wolf Fangs", a dog story, with a forest ranger and other outdoor properties.

These folders and the film are due almost entirely to the efforts of Mr. Bert W. Huntoon, whose wonderful photographs are used throughout the pamphlets.

Service Bulletin

U.S. FOREST SERVICE
(Contents Confidential)

VOL. XII. No. 13. WASHINGTON, D. C. March 26, 1928.

A PERSONAL MESSAGE

I wish that I could have told every one in the Service of my coming resignation before the news reached you from other sources. Membership in the Forest Service is much more than a job. Its friendships, enthusiasms, and aspirations fill a large part of life. The family spirit is a vital part of it. So I would much rather my fellow workers had heard first from me about my leaving the ranks.

I have been in the Service nearly 24 years, counting war time duty. They have been happy and satisfying years in personal associations, stimulating work, and the sense of being part of a dynamic, moving force.

I doubt if any other organization in the world offers these things to its members in such large measure as our Service, or any greater satisfaction in what they do and what they can achieve. Nor do I believe that many organizations offer an equal opportunity for worth while experience and contacts with human affairs.

When one adds the spirit of team work in the Forest Service and the remarkably loyal support of its members during my eight years as Forester, it is very hard to decide that the time has come to leave it. I never expect to derive equal satisfaction or equal pleasure in personal associations in any other field of work. The Forest Service is a good place to grow up in and a good place to stay in; and I will lose a great deal by quitting its ranks.

I have decided to drop out in order to get at direct grips with the economic and industrial side of forest conservation. Of course there are other considerations too, but this is the most important one. I have great faith in the possibilities of industrial forestry in the United States. We are at the beginnings of a slow but certain change in the nature and functioning of our forest-using industries - a change involving many developments toward industrial stability. It will be a process of gradual building, with timber growing forming the keystone of the arch. I would like to have a direct part in it. I would like to see how far I can help in the practice of some of the things I have been preaching. I believe that the public interest in forest conservation, with which we in the Forest Service have always been identified, is equally concerned with the interest or success of private business- in this gradual change toward stability in forest using industries. In shifting to the industrial ranks, I feel that I am simply transferring to a new field the interest in forest conservation that has directed our efforts in the Service.

The forest conservation problems of the Pacific Northwest are staggering, and to me they are challenging. I have no fanciful illusions as to any quick solution of them; but if I can help that great forest region move even a little in the direction of industrial stability and hence of industrial forestry, the effort will be worth while.

The Forest Service is so strong as an organization that it will forge right ahead along the trails already blazed and new trails yet to be staked out. Our strength and power of accomplishment is the strength and power of the organization. It is the strength and power, not of any individual or a few individuals, but of a large group of men and women with splendid team work and a splendid sharing of the same ideals of public service. The Forest Service is full of capable leadership, and it will go right on furnishing leaders in all its activities; but its real strength lies in the zest and enthusiasm and initiative of its whole body of workers.

I am leaving the Service with a fine, strong man, one of our own products, ready to step into my individual niche and carry its work forward. I know that you will all give him the same loyal and splendid support that you have given me.

Just the same it is a mighty hard wrench to leave you; and stepping our is far from a joyous and happy experience. It is a consolation to anticipate not only future work directly related with the interests of the Service but continued association with many of its members. One of our Service traditions is that we do not lose the men and women who formally leave the ranks but still regard them as part of the family. I shall claim all the rights and benefits of that tradition. I will feel the same old thrill over the things the Forest Service accomplishes and will stand ready to do my bit whenever I can be of help. I am not going to say goodbye just yet; I simply want to tell my associates all through the Service why "the Colonel" is leaving and how he feels about it.

W. B. GREELEY

NEW NAMES FOR OLD

By Allen S. Peck, D. 2.

At the Denver conference in November, 1925, the term "Forest Manager" crept into the discussions in speaking of the Supervisor's job. This term was so descriptive that it was used by committees in their reports and was bandied about frequently in the course of discussions. The native conservatism of the Service is shown by the fact that, although over two years have elapsed, there has apparently been no serious suggestion made for a change in title from Forest Supervisor to Forest Manager; at any rate, no official action has been taken.

This matter came up for discussion at a meeting of Supervisors in the Rocky Mountain District last November, and naturally suggested other title changes; for instance, the substitution of Forester for Ranger and Division Manager or Division Forester for District Forester. These changes were considered pretty seriously by the Supervisors and approved, although by no means unanimously; in fact, the Supervisors were pretty well divided with regard to Forest Manager and particularly the Ranger-Forester change. Since the publication of the record of that meeting, some of the Rangers of the Rocky Mountain District have been heard from, indicating that if the matter of the Ranger-Forester change were put to a vote of the Rangers themselves, there would very probably be no change made.

It seems to me that the men whose privilege it is to wear the titles should have a lot to say about any change which might be proposed. While sentiment and long custom ought doubtless to bear considerable weight, particularly on a change in the Ranger title, I should like to hear the matter discussed from the standpoint of just what is the most logical title to describe the present-day Ranger's work, keeping in mind, of course, that there are a number of different kinds of rangers outside the Forest Service. It certainly would seem desirable to have a discussion of this matter from the men chiefly affected rather than to put the suggestion for a change up for action by the administrative heads of the Service without this preliminary discussion.

The title "Forest Manager" as a substitute for Forest Supervisor, while this might likely be open to debate, seems to me should have a very logical appeal and would hardly have the weight of sentiment against it that is so prominent in the case of the Ranger title.

The suggested change from District Forester to Division Forester is one that I am prepared to argue long and loud, and I challenge anyone to state a good reason why the present National Forest Districts should not be styled Divisions and the District Forester designated Division Forester. Personally, I prefer Division Forester to Division Manager, since it seems desirable to keep the term "Forest" in as many titles as possible, for obvious reasons. We now have two forms of districts, one consisting of groups of National Forests and the other the administrative units into which each Forest is divided and which are presided over by district rangers. In view of the general usage among commercial organizations and public utilities covering wide ranges of territory, the term Division seems the more logical one to apply to the larger unit or group of units. I am sure this change would simplify our conversation, at least, considerably, and that Division Forester would have more significance to the general public.

Realizing full well that a change so fundamental as Ranger to Forester would upset the whole apple-cart, a suggested list of changes all the way up was evolved at our Supervisors meeting, as follows:

Present Title	Suggested Title
Forest Guard	Forest Guard
Assistant Forest Ranger	Assistant Forester
Forest Ranger	Forester
Junior Forester	Junior Forester
Junior Range Examiner	Junior Forester
Assistant Forester	Senior Forester
Assistant Forest Supervisor	Assistant Forest Manager
Forest Supervisor	Forest Manager
District Forest Inspector	Forest Inspector
Assistant District Forester	Chief of Range Management, etc., or Assistant Division Forester
District Forester	Division Forester
Assistant Forester	Assistant Chief Forester
Forester	Chief Forester

I hope to see some comment on the above changes in these columns and I propose to put one or perhaps all of the suggestions before the Forester officially if the nature of the comment appears to warrant this. If anyone feels moved to express himself privately rather than publicly on the proposition, I shall be glad to take him on under confidential cover.

ACCOMPLISHMENT

(Extracts from the D-1 Planting Report for 1927, with notes by E. E. C.)

The acerage planted (3,657 acres) was the largest in six years (with no increase in allotment).... A three-years' supply of both western white pine and western yellow pine seed was gathered, at a reasonable cost in a year of meager cone crop. (Who said it could not be done?) ..... The authorized nursery capacity for the next three years is well protected, with overstocking (in accordance with Service policy) inmost species and age classes. A manuscript dealing with nursery practice at Savenac Nursery, intended as a Departmental bulletin, has been finished. (Public education and extension) ....

Planting survey crews mapped 13,264 acres, of which 6,382 acres were recommended for planting (species and class of stock stated). ..... Nineteen areas were so mapped, on four National Forests. For areas so small (and scattered) the average cost (10.8 cents per acre) was surprisingly low. In the past, surveys of similar areas commonly cost twenty-five cents an acre. ..... The work was well planned out in advance, so there was no retracing of steps in working from one job to the next. (Enthusiasts for and knockers of progressive travel please note.) No important changes were made in the method of work (Standards maintained.) ..... There is ample acreage mapped in advance for several seasons of planting. (Basis for a definite three-year plan of work, including schedule of nursery production).

Only one of the major planting jobs of the year did not require pack stock in the transportation system ..... (On one major project) access to the area involved a seven-mile truck haul and fifteen-mile pack from the railroad. The pack trains made a turn-around trip whenever necessary. (That D-1 bunch certainly does know how to work pack stock). ......(On another project) most of the planting was done by the sophomore class of forestry students of the State University. About 20 students spent a week at actual planting. They made good planters and were well worth the standard wage paid to them. The acreage cost was the lowest of all 1927 projects. (Training of future officers - correlation with forest schools - economy.)

Weather conditions were a decided handicap ..... Even so, acreage costs were about normal on all projects except the fall planting (395 acres) on the - Forest. The average cost ($11.88 per acre) is about ten per cent higher than that for the previous year. ..... In the fall, the men (laborers) felt less inclined to tolerate the miserable weather conditions that prevailed in the mountains. (That "except" will probably be lacking, or at least located elsewhere, next year.)

A record survival of 84 per cent was attained last year in the one-year-old plantations. (Culmination and reward of effort!) By individual projects, the highest survival was 98 per cent and the lowest 70 per cent. ..... due largely to favorable moisture conditions but not entirely so, for there have been years, with a better distribution of moisture during the growing season than last year, in which survival was much lower.(Progress).

An exceptional year in the history of this District in that there were no fires of any consequence to add to the acreage in need of planting. (Every man in the District contributed to this, as well as Jupiter Pluvius. There were plenty of chances for small fires to grow big, if the organization had failed to function - standards - equipment - selection - training - morale - supervision - faithfulness. The cost of a fire doesn't end when it is out)

WOODS BURNING IN THE SOUTH

A definite statement of policy concerning woods-burning in the South has been issued by the Forester and given wide circulation in the Southern States. The statement holds that a prosperous South must have productive forest and range lands, but it cannot until woods-burning is stopped. The Forester says in part:

"Individual responsibility for woods-burning must be established; every landowner must be brought to realize the part he should play. The malicious fire brand must go. Organized systems of fire prevention by States and landowners must be extended and strengthened. The public must be advised of its duty. The individual must be won by education to the need for outlawing fire and the part he plays in it. Those not amenable to reason must be controlled by the vigorous enforcement of laws to protect the interests of the public and landowners.

"No one agency alone can cope with this situation. All private landowners, all the Southern States, and the Federal Government must find a common rallying point and stage a united fight. Effective fire control is a challenge which any successful program of forestry in the South must meet."

LEGISLATION, 70TH CONGRESS

The Woodruff-McNary Bill, which would establish a fiscal policy for the purchase of forest land for a 10-year period and would authorize total appropriations of $40,000,000 was passed by the Senate on February 6 with an amendment through which the total appropriations could be made in 8 years instead of 10 and a further amendment that except for purposes of flood control and protection of navigation the acreage to be acquired in any single State should not exceed 1,000,000 acres. The bill passed the House on March 14, amended so as to authorize appropriations of $2,000,000 only for the fiscal years 1929 and 1930. The Senate disagrees to this amendment and the bill is now in conference.

The bill extending the Utah National Park and redesignating it as the Bryce Canyon National Park has passed both Houses of Congress.

DESIGNING ROADS FOR A GIVEN SPEED

Part 3

By T. W. Norcross, Washington

What determines the safe speed of travel? It does us very little good to decide that we will design roads to render certain specified service and that such service will be measured in terms of average speed with safety and reasonable comfort, unless we know how to get the speeds we want.

Obviously traffic has a most important influence on speed of travel. The requirements of traffic are usually expressed in terms of road width. If travel is in one direction only, and is not of really large proportions, a single track road with a few chances for emergency passing is adequate. Where two-way travel on a single track road is permitted, opportunity to pass is provided by turnouts. The spacing of these depends on the amount of opposing travel. When the amount increases to such a point that the turnouts are largely continuous, the two track road is needed. Later comes the 3 and 4 track. The preceding is of course obvious. The Forest Service right now is primarily interested in the two-way single track roads. On the greater portion of these roads the amount of travel is very little and if ample turnout facilities are provided, the loss of time is only a small percentage of total time spent in travel. Allowance for such lost time must of course be made but this isn't difficult to handle.

What else besides traffic determines the safe speed of travel? Width? Surely, width is an element of standard which greatly affects speed. But what of the low-gear hill - width there is of minor importance. Surely grade is another element of standard affecting or determining the speed of travel. And curvature? On our mountain roads, this has a most important influence. How about the condition of the road surface or the shape of the cross-section? Every driver knows that both affect his speed.

Sometimes a single element of standard such as width, surface, alignment, grade, etc. determines the safe speed of travel. More often it is determined by a combination of certain of the elements. What safe speed can be secured from the various elements of standard independently or in combination with others? All car drivers know that they can not travel as fast on narrow rough, steep and crooked roads as on those that are wide, smooth, level and straight. But they do not know the effect of the individual elements or combinations of individual elements. Every element of standard has an important bearing on the speed of mountain roads. Several elements of little or no importance on the more level and open country sometimes exert a great influence on mountain roads.

The investigation which is now under way consists of determining the speed obtainable for each of the single elements of standard and for each of these in combination with other elements. The best, quickest and most accurate way of doing this would be to construct sections of road for test purposes. But the amount of money required for this method would be greater than it is now believed should be expended. Also absolute accuracy does not now seem essential. So the plan provides for getting the data by making tests and observations on roads already constucted. The method is not only more time-consuming but it is very difficult to find enough of the desired combinations to determine an average upon which reliance can be placed. So there exists uncertainty as to how complete the investigation will be. But there is always the assurance that whatever is learned will be of value and service in design and improvement of our roads.

It is of course obvious that a certain speed will be obtainable from many different combinations of the elements of standards. If the conditions at the section to be designed or improved permit, that combination should be selected which can be secured at least cost, considering not only construction but maintenance, interest and retirement of investment. Also the future of the road must be kept in mind. The minimum annual expenditure now may not really be the cheapest.

The whole story in brief is then (1) a road is a service to traffic or property; (2) service, except for timber and similar utilization roads will be measured in elapsed time between terminals or in other words, the average travel speed; (3) the elements and combinations of elements of standard that will give the various speeds within the range of Forest Service needs will be obtained by investigation and test; (4) the service desired of a road to be improved or constructed will be specified in terms of elapsed time; (5) the road will be designed to give the specified service, at the least annual cost, all factors considered.

THE PASSING OF TWO OLD FRIENDS

By J. O. F. Anderson, Ochoco.

Away back in the good old days, soon after the Ochoco became a National Forest, Doug. Ingram was placed in charge of that portion of the Forest now known as the Mill Creek district. In those days travel was by horseback, and it was our custom to take a pack outfit with us. Among other horses, Doug. had two, Queen and Nancy, who became known by sight to all the residents of the country. Later, when Doug. was transferred to Portland, these horses were sold to Riley Warren, who sold them to Forest Supervisor Harpham. Harpham sold them to Ranger Anderson. As time went on the horses grew old and less useful, and more and more of our travel was done by auto, it was felt that we were not justified in keeping them longer, and they should be killed.

During the winter of 1926, Ranger Anderson wintered "Nancy" at his own expense, which was about $45, for the simple resaon that he did not have the nerve to kill her and would not see her go hungry. At various times he tried to put the horses out of the way, but for some reason, the rifle sights would seem blurred and the rifle develop a tendency to point elsewhere than at the target. So it would be put off for a while.

If any reader thinks he can easily kill horses that have faithfully carried him and his food and camp outfit through the mountains for years, I want to say that he is either mistaken or the kind of person I do not care to know.

We may take pride in our automobiles, but an auto can never be a friend and companion. Excepting possibly a dog, man has no animal friends equal to horses. "Queen" and Nancy" worked long and faithfully for the Forest Service and came to the end of the trail on the hills where they lived and worked.

I might add, however, that Ranger Anderson was not the one who fired the shots that put them out of this world. He freely admits that he did not have sufficient nerve. and certainly no inclination whatever. But they are gone - and when our time comes to pass on, if we leave a record of as faithful work as did Queen and Nancy, we shall have done our work well indeed.

A BOY SCOUT TROOP THAT WILL BE "DIFFERENT"

The first troop of Boy Scouts in California and probably the first in the United States to be sponsored entirely by members of Federal Departments has been organized in Santa Barbara.

Federal Troop No. 10 has the local postmaster as its official sponsor, and a committee as follows: Wm. V. Mendenhall, Forest Service, chairman; Captain Guy R. Chase, Internal Revenue, inspection officer; Howard Taylor, Income Tax, secretary, and Hugh McCaffery, Assistant Postmaster, treasurer. Ranger H. R. Valentine of the Santa Barbara is an assistant Scout leader in charge of outing trips on the forest. - From D. 5 News Letter.

PEAK NAMED FOR MARSHALL BROTHERS

Robert Marshall '24, (now at the Northern Rocky Mountain Experiment Station) and his brother George have to their credit the climbing of all major Adirondack peaks. Included in this exploit is the accomplishment of making the first ascent of a hitherto unnamed peak of 4,404 feet of the Dix range.

In recognition of their exploits it has been proposed by Russell M. L. Carson, in his recently published "Peaks and People of the Adirondacks," by Doubleday, Doran and Company, that this peak be named Mount Marshall.

Mr. Carson feels that this recognition is due the Marshall brothers for their many valuable contributions to the cause of mountaineering in the Adirondacks and that through their exploit they hold top rank among amateur climbers of the region. We are further told that much of the recent revival in climbing in the Adirondacks is due to the written accounts of their experiences.

The peak for which the name "Marshall" is now proposed was first climbed by them in August, 1921, and constituted part of a day's hike which covered more than thirty miles. - The New York State College of Forestry News Letter.

My dear Colonel Greeley,

I desire to bring to your personal attention the valuable technical assistance rendered by your California district and in particular the helpful and efficient personal services of Mr. T. D. Woodbury, Assistant District Forester, and Mr. C. E. Dunston, Assistant Chief of Forest Management, in the solution of our forest problems on the Presidio of San Francisco military reservation during the past two years.

Upon my arrival at this Post as commanding officer in late 1925, the necessity was apparent of giving attention to our beautiful and valuable forest areas, the extent of which are shown on the attached aerial photographic Mosaic map. The trees were overcrowded with resultant stunted growth and disease, and the underbrush presented a serious fire hazard during the dry season.

The California district office of your service here in San Francisco was consulted. With a splendid spirit of cooperation, Mr. Woodbury and Mr. Dunstan designated by marking at various times during the course of the work the trees to be cut, and using soldier labor for cutting and clearing we are now rapidly nearing the completion of the project.

The result obtained, due to a large extent to the systematic marking, is causing favorable comment among civilian and military personnel and in addition the Government has been saved a considerable sum of money on account of having been able to handle the project within governmental activities instead of by contract.

Very truly yours,

/s/ F. C. BOLLES
Colonel, 30th Inf., Commanding.

THE PIONEER PORCUPINE ON THE NEBRASKA NATIONAL FOREST

For several years, there has been evidence of the presence of a porcupine in the Nebraska Forest plantations. Quite a few trees were barked and some were entirely girdled and killed by some animal whose work was identified by the Biological Survey as that of a porcupine. The porcupine was never seen by anyone during the past several years until forest entomologist L. C. Baumhofer ran on to him and captured, killed, and photographed him. It is not known whether this specimen wandered up one of the river valleys, from the Platte or the Missouri, or whether he came across the prairie from the Black Hills.

It has not yet been determined if there are other members of the family on the Forest or if this animal was a lone member of his tribe. A careful watch will be kept to see if other porcupines are left, as the difficulties in establishing a forest in the sand hills are quite enough without having trees destroyed by animals after they are established. - District 2.

JAVELINA'S WICKED FIGHTERS

Carrol Wilbanks, foreman of the Flying W cattle outfit reports that he and Jim Sam Haught had some experience with a javelina boar, states the Tonto Bulletin. Jim Sam set his dogs after the boar which was killed, but two dogs made violent entry into dog-heaven and the other three died from injuries. The dogs were valuable hounds used for bear and lion hunting. - D. 3 Bulletin.

LIBRARIES AND LIBRARIANS

By Jno. D. Guthrie, D. 6.

Forest Service libraries as a rule are not appreciated, nor as a rule are our librarians. Time is supposed to hang heavy on librarians' hands -- all they have to do is to read the periodicals and new books! A well-run Service library, if of any size, is quite a job ,and a technical job at that. We users of libraries, knowing practically nothing of the technique, work, and routine necessary to catalog, classify, index, file,-- and then to locate on a moment's notice, -- all books and periodicals received, are apt to think it's a cinch. None of us except the librarian knows anything about running a library, and therefore we make snap statements about what should and shouldn't be done.

The D-6 Forest Service library is a growing and going concern. Here's some of the business it did in 1927:

A total of 31 books and pamphlets were purchased, 294 were received by gift, total cataloged during the year, 325. There were 22 periodicals subscribed for, and 24 received free; these 46 were reviewed and articles of interest to Forest officers indexed.

Bibliographies were compiled on Charcoal, Christmas Trees, Reading List of Forestry Books, Forest Taxation, and Wilderness Areas.

The D-6 Library was used,perhaps not enough, but there were 416 loans to members of the District Office, 29 to field men, 11 to Forest Experiment Station, and 17 to the outside public.

There were some 1004 reference requests handled, requiring less than 15 minutes each. Personal calls by the public were responsible for 732 of these, public mail requests for 272. A total of 35 references were looked up in the Portland Public Library. The Librarian also keeps a record (and reports it monthly to the Forester) of all signed articles appearing in print from D-6 Forest Officers; there were 54 of these during the year, 38 by District Office members and 16 by field men. There were library loans of special information given during the year to the number of 416 to 53 different District officers. Books loaned to the Forests numbered 29, to 10 different Forests.

The D-6 Librarian also handles our photographs, - ordering ,classifying, filing both mounted photos and extra prints. A total of 1326 new photos were received, of which 607 were accepted for the District collection. In addition, photo cross indexes were kept up, by Forests, by author, and by photo numbers, as well as description sheets.

Altogether, the D-6 Library was a fairly busy place during the year.

Service Bulletin
U.S. FOREST SERVICE
(Contents Confidential)

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"PLUS-FOURS"
A Subject for Research

By Fred Morrell, D. 1.

Wyman's article in the February 20 number of the Service Bulletin has taken the writer back in reverie over a "style revue" of Forest officers' livery during the past twenty years. What a fertile subject for conversation it has been, -- not outranked by either the weather or the fire season. But in the later years since Colonel Greeley said "This and this will constitute the uniform, - go buy them," the subject has lost some of its old interest. Occasionally someone has attempted to revive it by raising such questions as service stripes or merit badges, but the efforts on the whole have not been successful.

Now comes Wyman of the Branch of Research with a suggestion which, as he says, should rank in importance with that of the "choke-bore pants" controversy of twelve years ago. How well I recall the statement made by two or three of the "technical" members of a Supervisors' meeting in Denver, to the effect that if one should wear "choke-bores" into a cow camp in their country he would get chapped, and how Jim Langworthy (now Shoshone) unwound himself from his usual reclining position and rose to say in that delightful drawl of his that he had worn "choke-bores" for a season or two down in the Uncompahgre country and that while he had to be careful when he stooped, he had never been chapped yet. Lee Sweitzer, then Supervisor of the Rio Grande, followed to the effect that when he first wore the "choke-bores" in Monte Vista citizens used to shy from him like a cow horse from an automobile, but that now they don't pay any attention.

In those days Jim and Sweitzer didn't have to explain that they were "range raised". Everything about them from soft drawl to set of shoulders bespoke that, and besides, they bore some reputation as men who "wouldn't walk" and who knew the why and how of the long rope. All of us held them in envy and esteem and their few soft spoken words did much to advance the cause of "choke-bores."

Which brings me at last to the subject of this discourse. We have Wyman's testimony, but he confesses to having been once a Forest Assistant, and many of us don't know him. What we should have in this matter is the testimony (after using) of some of the well known old timers in whose band wagon we would all be delighted to ride. That, along with what I will suggest later, should either put plus-fours on the nether limbs of the rank and file or consign them permanently to the decoration of college youths and golf players, which most of us have always believed to be their only function.

Now I propose that this be set up as a Service project for 1928, and a working plan be made for it. The first thing is to select representative men who will be honored by the distinction of wearing plus-fours while on field duty. I do not know the personnel of the Forest Service well enough to nominate men from all parts of the country, but to start the ball rolling, I suggest the following:

From the Washington Office: Mr. Sherman and Roy Headley,
From the Branch of Research: Zon,
From the District Foresters: Rutledge,
From the Assistant District Foresters: Glen Smith and Jesse Nelson,
From the Supervisors:
Jim Langworthy (Shoshone) and
John Lowell (Bitterroot)
From the Rangers: Some representative men such as Frank Loring and Bill Kelso, D-2 and Ed McKay and Art Pauley, D-1.
Other Supervisors and Rangers must of course be selected by those who know the personnel.

But we don't want to go at this thing by any rule of thumb method or leave it to the testimony of "practical" men alone. Research should put it on the program for at least one and probably all of the Experiment Stations. We should determine by scientific methods the answers to such questions as the inches below the knee that the bag in the leg should hang, whether a 24 inch or a 32 inch width of leg is most suitable, what is the best mixture of colors, and whether stripes should go round and round or run up and down. Should they be worn with suspenders or belt, or both? These are just a few suggestions. Many others will occur to the Research men.

This is not an effort to deride Wyman's suggestion. All my life I have been buying out-of-style clothes, because I have never been sold to a new style until everyone else was ready to discard it for another one. I'm not going to make the mistake of lagging in this "Plus-Four" matter like I did with "choke-bores" and I don't want to appear at an inter-District conference in misfit borrowed "Plus-Fours" like Jim Girard did in uniform at Cooley because we kidded him into the belief that everyone would be in uniform and Colonel Greeley would send him home if he didn't have one. If "Plus-Fours" are the coming livery for Forest officers let's get the low-down on them. I hope that others will fall in with this idea and write the editor their views.

THE EDITOR BLURBS

Heaven send us other pleasant whimseys for the Service Bulletin like that of Fred Morrell's on "Plus-Fours."

C. M. Granger ought to have a word to utter on these things, because in all of his golf playing out in Denver (none of which, as we recall it, justified an article for the Bulletin) he wore choke-bores, and a few times that other complementary equipment on his legs - music rolls. Had he worn plus-fours it might have changed his game completely.

We are sure Jim Langworthy would adopt plus-fours if some one would introduce them to him in Cody, and while we can't speak for Mr. Sherman we feel confident Roy Headley would welcome their "uncramping," especially while in District offices.

We have never seen the Chief of Management, E. E. Carter, attired thusly, but if we can judge of his development by the pace he sets when walking he should look not at all "infra dig" nor even "nom-de-guerre."

Why not settle this uniform question once more? If we do, let us not fail to pin the Distinguished Badge of Courage on Wyman for his unexampled fearlessness in proposing the bally things.

The lists are open. Our personal cry is "Plus-Fours! Loud may they flap!" H.R.K.

BAKER APPOINTED STATE FORESTER OF FLORIDA

Harry Lee Baker, assistant forest inspector of the division of State cooperation, has been appointed State Forester of Florida. For the past two and one-half years Mr. Baker has had charge of investigations, authorized by Section 1 of the Clarke-McNary Act, looking toward permanent and adequate fire protection for the different forest regions. In 1926 he made an extended study of forest fire conditions in Florida. He has since then been engaged among other activities, in making fire control plans for Mississippi and Oklahoma and in carrying forward the classification and indexing of State forestry laws by subjects and by States. He has had 10 years' forestry experience on the National Forests of the West, and has served as district forester in Virginia and assistant State forester in North Carolina. He will assume his duties in Florida soon after April 1, with headquarters at Tallahassee.

Mr. Baker carries with him to his new job the hearty good wishes of his many friends in the Forest Service.

TIMBER OBLIGATED AND CUT UNDER LAND EXCHANGES

After much travail complete figures have been compiled for all Districts giving the net amount and value of National Forest timber obligated and cut under exchange agreements since the making of the first exchange by District 3 in 1912 down to January 1, 1928. The 1912 exchange was made pursuant to a special Act of Congress and was not completed until 1925, the total cut thereunder aggregating 49,755,611 board feet with a stumpage value of $124,389.03. Similarly, a few exchanges of timber for land were made in other Districts under special acts applying to various National Forests. Most of the exchanges recorded in the following table were made under the General Exchange Act (Act of March 20, 1922, 42 Stat., 465):

CUMULATIVE SUMMARY THROUGH CALENDAR YEAR 1927 of TIMBER

OBLIGATED AND CUT UNDER LAND EXCHANGES

Dist.	Total timber obligated under exchange offers approved by Sec'y of Agriculture		Timber cut but title to offered lands not yet accepted. Deposits in suspense fund.		Timber cut under exchanges from land to which title has been accepted	
	M ft. b.m.	Value	M ft.b.m.	Value	M ft.b.m.	Value
1	17,429	$63,707.51	3,521	$11,858.31	12,728	$47,943.51
2	34,790	99,939.84	11,519	35,306.00	7,605	23,463.57
3	108,015	256,472.48	4,923	16,000.00	64,069	147,369.21
4					2,984	7,855.46
5	63,324	193,903.11	6,363	13,654.22	51,240	153,001.91
6	134,391	256,202.34	11,971	34,418.31	51,268	112,030.22
7	5,785	46,282.82	4,311	34,489.44	1,474	11,793.38
Total	363,734	$916,508.10	42,608	$145,726.28	191,368	$503,457.26

The above figures give a total cumulative cut under all exchanges of 233,976,000 board feet with a value of $649,183.54. If these amounts are deducted from the cumulative amount and value of timber obligated, it will be seen that on January 1, 1928 there remained to be cut under exchanges approved by the Secretary of Agriculture a total of 129,758,000 board feet with a stumpage value of $267,324.56.

MISOSOPHISTS OR PHILOSOPHISTS

By Fred R. Johnson, D.2.

Answering Mr. Munns' question in the March 5 Service Bulletin, we not only believe that foresters are NOT misosophists (we admit that we had to study the dictionary) but we also believe that they are PHILOSOPHISTS, or searchers for the truth. Mr. Munns' article contains some truths but, taken as a whole, his statements are too sweeping and not entirely in accordance with the facts and with the practical aspects of the situation, either in forestry or in agriculture. For instance, many car loads of certified potatoes and field peas are shipped from Colorado to all portions of the United States and, up to a few years ago, the twenty million dollar crop of sugar beets in Colorado was dependent upon Germany for seed.

With regard to tree seed, District 2 has learned by sad experience the danger in using seed at places far distant from its source, especially where the seed is collected considerably south of the place where used. For example, Douglas fir seedlings from southern Colorado seed do not thrive in northern Colorado. There have not been the same difficulties in using seed of northern origin in places located to the south, provided the climatological conditions are not too different. Bates' tests with western yellow pine plants from a dozen different sources show the value of using home collected seed. The latest phase of this study is to determine whether healthy trees transmit their desirable qualities to their offspring, as immunity to Peridermium Harknessii. (See Mr. Bates articles "Better Seeds, Better Trees", February 1927 Journal of Forestry and "A Vision of the Future Nebraska Forest" in the December 1927 issue)

Although experiments of that kind are valuable, it is impracticable to gather seed from individual trees for large scale coniferous seedling production at this time. The next best step is to follow the example of the farmer who selects his seed grain from healthy fields and not from individual stalks of wheat. In the same way, the Forest Service has selected the fine stands of Norway pine on the Minnesota National Forest, which is one of the places where this species reaches its optimum development, for collecting seed for planting in the Lake States National Forests, and some of this seed has also been offered to cooperating States.

Looking at the situation from a practical standpoint, if we had to depend upon the scattered, fire scarred, and more or less defective Norway pine seed trees on the Michigan Forest and vicinity for seed to conduct a 10,000 acre planting program there, it would be better not to attempt the job. In many of the eastern States, the remaining Norway pine is so scattered and scrubby - the culls of a once valuable forest - that seed collection is not advisable from the standpoint of cost as well as scientific forestry. Would Mr. Munns recommend that no Norway be planted in Pennsylvania, for instance, until forests of this species rehabilitate themselves. Perhaps he would favor the planting of pitch and scrub pine, or white pine which is subject to blister rust infection!

New Jersey, Virginia, Ohio, Indiana, Illinois, Iowa, and Missouri, which will be furnished seed, are either out of the range of Norway or else it occurs in a very limited area. Would Mr. Munns recommend that this species not be planted in these States? If so, presumably, as a Californian, he would object to the introduction of figs and dates from the Orient in his own State. As a matter of fact, do we not, as foresters, recommend the planting of valuable tree species within their physical range, even though it be out of their natural range?

It might appropriately be asked if the Forest Service discontinues the sale of seed in the interest of better future forests, as Munns suggests, where would the States get their supply, if it cannot be secured locally. Would it not be better for the States to get their Norway seed from the healthy, vigorous stands within the Minnesota Forest and vicinity at reasonable rates than to be forced to pay $10 to $15 a pound to commercial dealers for seed of unknown origin. Probably Mr.

Munns would recommend pine orchards for seed production. Until these are started, would it not be best to gather seed from the best stand available?

If Mr. Munns will read up on the dendrology of Norway pine, he will find that seed years occur at intervals of 3 - 5 years. Hence advantage must be taken of good seed years. All of the seed available will be disposed of in less than three years and deterioration is not great in that time. We have a record of one can of Norway pine seed, collected in 1910, which when opened and tested in February 1918, showed a viability of 93.5 per cent. This is exceptional but the loss in germinative ability should be in excess of 15 per cent in three years for seed stored in sealed cans.

GRAZING MANAGEMENT OF WESTERN YELLOW PINE CUTOVER LAND

By Lee P. Brown, Crater.

In 1924 a study of the effect of caterpillar logging on grazing management and of grazing on forest management of cutover pine lands was undertaken on the Crater National Forest as a part of a general study of grazing management of cutover lands in the Northwest.

Studies in the past have sought and have emphasized the effect of grazing on forest management. This study approaches the problem from the grazing standpoint of what effect caterpillar logging has on grazing management with the purpose of finding out what adjustments in grazing are necessary, following logging, to best serve permanent range and forest management.

The study covers the following points of range and forest management.

1. Study of plant succession following logging.
    - A. Original cover.
    - B. Cover immediately following logging covering:
        - a. Changes in vegetation.
        - b. Losses and causes of loss of advance reproduction.
    - C. Subsequent changes in cover.
    - D. Correlation of foregoing factors in their effect on range management and use.
2. Study of use and seasonal use.
3. Study of grazing capacity, covering:
    - A. Reduction of volume of forage due to logging.
    - B. Changes in palatability of forage due to logging.
    - C. Observation of actual use on transect and range as a whole.
    - D. Observation of vegetation actually removed.
4. Damage to Reproduction, covering:
    - A. Logging damage.
    - B. Grazing "
    - C. Damage due to other causes.
5. Influence of continued grazing.
    - A. On reproduction.
    - B. On fire hazard.
    - C. On forage type

Eliminating long tables and all detail the result of three years' work on the study may be briefly summarized as follows:

1. Logging reduces the volume of forage.

2. Selective logging either light or heavy does not distrub the ratio of forage plants materially or the palatability of the range, although indications point to an increase in brush due to sprouting of the cut and torn stools. In 1926 and 1927 remarkable growth was made by lilac, ceanothus integerrimus; willow, salix sp.; and black oak, quercus californica, which was heavily browsed by cattle due to the succulence and tenderness of the new sprouts. In addition some of the larger stools originally had a large proportion of their leaf surface above the zone grazed by cattle. Cutting and trampling these stools placed all of the leaf and twig surface within reach of the stock.

3. The loss in volume of forage can be measured almost directly by the area in wheel roads, railroads, skid trails, landings, and brush piles, as these factors result in permanent injury or destruction of the forage.

Other operations such as falling, skidding, swamping, etc., result in only temporary damage from which the forage plants quickly recover.

4. The season of use will remain practically the same as it is now.

5. Damage to reproduction from grazing of cattle and horses where range is not over grazed is negligible.

6. Caterpillar logging as practiced on this sale is very destructive of reproduction, reducing the stocking 40-50 per cent of what it was prior to logging. The skidding, bunching, and wheeling operations are the most destructive to reproduction due to the area churned, cut up, and denuded. Of the forest protective measures, brush burning and clearings to mineral soil for fire lines are the most destructive, this loss can be measured directly on the basis of denuded area. For brush piling and burning alone it is normally not over 5 per cent of the area.

7. Gopher work seems to concentrate in the open glades and parks where it is inimical to forage and reproduction and augments the grazing damage, due to trampling or over grazing to both forage plants and seedlings.

8. Broadcast burning of logging slash is as destructive to forage values as a forest fire. Broadcast burning eliminates the perennial grasses and bromes for a number of years as well as the better types of weed feeds. It materially increases the browse, and nonpalatable harsh weeds and ferns. This is in distinct contrast with the practice of piling and burning the brush which destroys not over 5 per cent of the forage value.

Sufficient time has not elapsed for definite determination of several phases of the study, but careful observation of the range as a whole and intensive check of the transects will continue for several years before the study can be completed.

Thousands of engineers can design bridges, calculate strains and stresses, draw up specifications for machines, but the great engineer is the man who can tell whether or not the bridge or the machine should be built at all, where they should be built, and when. - George Gibbsin INFORMATION, March 12, 1928.

HIGH PRAISE, WE SAY

By Jno. D. Guthrie, D.6.

So far as we know, it has remained for the "Baker County (Ore.) Record" to advertise the fact that it has a Forest Service press service! The paper presents to its readers, among other attractions (?), Forest Service press releases as special features of its columns. In a 13-inch spread advertisement in its issue of January 26, 1928, it says:- "Baker County Record 'Covers The County Every Week' - $1.50 a year - EVERY WEEK - Bulletins from U. S. Dept. of Agriculture, Bulletins from Ore. Motor Assn., Bulletins from Forest Service, Farm Reminders from O. A. C., Many Articles of Local Nature - About Your Health, What Price Beauty, Articles By Dr. Frank Crane, Dress Patterns, Serial Story, County Correspondence."

What more can we ask than to be included among such universal favorites as Dr. Frank Crane and the Beauticians (or Cosmeticians - if you prefer)? We claim that's the acid test.

The Weekly paper is the one that gets the real reading. No headline skimming here, but with specs on and shoes off, in rocker-chair and shirt sleeves, the rancher-farmer goes through his paper from kiver to kiver. The county paper is still the most carefully read of any in this country, and we feel honored that our press releases are not only used in it but are advertised by it!

ANNUAL GRAZING REPORTS

By John H. Hatton, D. 2.

One of the striking features about the annual Grazing reports this year, has been the limited amount of written discussion so characteristic of the former reports. With the universal development of simple unit plans for all ranges and tying management to the ground, the District as a whole showing more than 70 per cent complete, we are finding that the incentive and need for elaborate written discussions are passing. The necessity for extended written action by the District Office has been almost eliminated. Few allowance letters, for instance, need to be more than a page, and most are less than that. We believe this all points toward progress and efficiency on the ground and that the time will come when most of our administrative checks on range management will be in the field and in the supervisors' offices rather than from records and reports in the District Offices.

DESIGNING ROADS FOR A GIVEN SPEED

Part 4

By T. W. Norcross, Washington

As stated in the previous installment every element of standard has an important bearing on the speed on mountain roads. Which element is the most important? Agreement in opinion will not be possible.

Which element or combination of elements is the most prevalent on the Forest roads is not known but assuredly curvature is near the top. Not only are many roads crooked and winding but some curves must necessarily be of very short radius unless heavy expenditure is made and such expenditure frequently is not justified. Since curvature is necessary and widely prevailing and since only infrequently do the conditions now justify more than the single track road, it was decided that the first investigation should be of curvature.

Assuming all other elements of standard to be the same, what will be the safe speed with widths of 9 and 12 feet and with relatively sharp curvature? What will be the effect on speed if the curves are banked? The investigations at the Pedlar River plot involved a determination of the safe speed with widths of 9 and 12 feet with bankings up to 2" to the foot and with radii of 30, 50, 70 and 100 feet. All of the other elements of standard were constant. The grade was level; the road surface of dirt, but smooth; the cross-section a through-fill but of low height; and the curves were all open. Two cars and a truck were used.

A big start has been made towards getting the desired data of how to design roads for a given speed. We now know that for the combination of elements that were tested, the difference in weight, length of wheel-base, distance of center of gravity above the ground and whether a left or a right hand curve have comparatively little influence on the maximum speed. Also the maximum safe speed on the curve itself is not affected by the speed at entrance; in other words, the possible maximum on the curve is the same whether the approach speed exceeds or is less than that maximum.

For purposes of road design, the maximum speeds without skidding, obtained at the Pedlar River test, will not be used. A factor of safety will be secured through using somewhat less than the maximum; this speed also was secured from the field tests rather than by office deduction.

If for the conditions investigated, a certain speed is desired, the tests show how this speed can be obtained with different combinations of width, banking, and radius. It is possible to determine the combination that will provide a safe road and give the desired speed at the least expenditure for construction and maintenance. For instance a safe speed of 16 miles per hour can be assured with the following combinations:

Width	Radius	Banking
9	56	level
9	46½	½":1'
9	39½	1" to 1'
9	33½	1½": - 1'
9	28½	2" : 1'
12	46½	level
12	40	½" to 1'
12	35	1" to 1'
12	30½	1½" to 1'
12	26½	2" to 1'

From the above it is evident that a 2"

to the foot banking of a 28½ ft. curve on a 9 ft. width will give the same speed as a 56 ft. curve with the same road width but not banked. Which combination will be the most desirable can not be stated without knowledge of cost, conditions on the ground, probability of stage construction, etc. It should be noted that while combinations No. 5 and No. 10 seem very promising, a soil which is slippery when wet may require elimination from consideration unless the curve is surfaced.

WHAT INDUSTRIAL FORESTRY ASKS OF THE PUBLIC

Dr. Wilson Compton, Secretary of the National Lumber Manufacturers' Association, in his address at the annual meeting of the American Forestry Association in St. Louis declared that industrial forestry has a right to ask of the public, first, tolerance and understanding, and, secondly, a sane conception of industrial forestry, free from sentimental extravagances. He further stated that the public should extend to private timberland owners taxation adapted to the peculiar nature of timber property and adequate protection against the menace of forest fires. Good public manners in and toward the private forests and suppression of the fallacious doctrine that curtailment of the use of forest products will encourage the growing of forests, are also asked by industrial forestry, he said.

"Public opinion attaches to forests something more than the general public concern in the well-being of industry generally," declared Dr. Compton. "It demands forests for reasons which have little in common with the objectives of the individual business man engaged in industrial forest management. Public opinion, for example, holds more or less to the belief, now generally discredited scientifically, that forests have much to do with climate and weather, with aridity and humidity. It also believes that there is some considerable relation between disastrous floods of wide extent and forest cover, between forests and the variations in stream flow that affect navigation and domestic water supplies. It knows that forests are vitally related to outdoor recreation, the enjoyment of the natural scene, and the preservation of wild life. It demands forests for all these collateral reasons, besides the ordinary economic consideration, and it does not wish to abate its demand in accordance with the economic laws which rule private forest production just as all other private enterprise. But a debate with the adding machine is no more likely to be successful when conducted by a nation than when attempted by an individual. In the end, public opinion will recognize economic laws in practice as well as in theory or it will have forest growing on its hands as a public function.

"To conform to these limitations its general requirement that forest land owners shall grow and maintain forests, the public must learn to resist the all too widely held fallacy that the way to get more trees is to hoard those which we now have. It is obvious that nowadays the disuse of forest products must be immediately translated into the abandonment of their sources. When the forests were supposed to be inexhaustible - and were, indeed, considering the demands then made upon them - the use or disuse of forest products had no relation to forest growing. It was not conceivably in the national picture any more than the perpetuation of air is dependent upon our breathing it. But now the use of forest products on a liberal scale is the only way to maintain the economic stimulus to tree production. To cut off the demand for lumber and paper and the thousands of different articles that are made of wood would not only remove the incentive to reforestation, but would render the standing forests commercially valueless and non-productive.

"The main hope of a rapid regeneration of our forests lies in the potentiality of the remaining virgin timber and mature second growth to finance the building of the forests of the future. The old forests, if liberally patronized, can carry the new forests through their long period of non-productivity. So, people must cease to complain, as of something deplorable, of the steady cutting of virgin forests despite an acknowledged condition of national timber depletion. We cannot consume old trees and still leave them in the forest. Forestry dooms the wild forest. The board-buyer is the necessary counterpart of the board-grower."

Service Bulletin

U.S. FOREST SERVICE
(Contents Confidential)

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STATEMENT INCLUDED IN HEARINGS ON McSWEENEY BILL, HOUSE COMMITTEE ON AGRICULTURE, MARCH 2, 1928.

The general forestry policy of the Department of Agriculture may be summarized briefly as follows:

The existing National Forests, aggregating approximately 158 million acres, represent substantially the watershed and timber-producing areas in the States west of the Great Plains which should be owned and administered by the Federal Government. The western National Forests should be consolidated under the legislation permitting land exchanges; and should be enlarged under sections 8 and 9 of the Clarke-McNary act by the inclusion of other federally owned lands primarily useful for the production of timber or protection of watersheds.

In the eastern United States, where the proportion of forest land in federal ownership is very small, the existing National Forests should be consolidated and additional National Forests created, by purchases under the Weeks law as amended by the Clarke-McNary act, to the extent of 9 or 10 million acres of additional land. These consolidations and enlargements are designed (1) to protect the headwaters of navigable streams and aid in flood control and (2) to establish effective demonstration areas of forestry practice.

Completion of the foregoing program will place about one-fourth of the forest lands in the United States in National Forests. In the administration of these areas, the Government should seek to attain the maximum production of timber and its utilization through expert forestry methods to supply the "uses and necessities of citizens of the United States," as prescribed in the organic law. Other purposes to be served are the effective protection and utilization of water resources, the utilization and renewal of forage resources, and adequate provision for public recreation.

For the remaining three-fourths of the forest land in the United States, the aim of the Department of Agriculture is to extend the growing or renewal of timber crops as rapidly as possible through the encouragement of State and municipal forest ownership, industrial forestry, and farm forestry. This is to the end that as speedily as practicable all of the forest land in the United States, representing about one-fourth of its total area, may be productively and continuously employed in timber culture both as a profitable use of land not adapted to other requirements and as a means of supplying the forest products needed by the people of the United States. This objective is sought:

(1) By encouraging the development of strong State Departments of Forestry and the enlargement of State and municipal forests.

(2) By cooperating with the States under the Clarke-McNary act in the systematic

protection of all forest lands from fire, in growing and distributing forest planting stock, and in extension work designed to promote farm forestry and to make timber growing an effective part of diversified agriculture.

(3) By cooperating with the States and other agencies, under the Clarke-McNary act, in the study and promotion of the most rational methods of taxing forest lands.

(4) By helping in cooperation with other agencies to furnish the technical information required for the most profitable growing and utilization of timber, together with economic information needed as a basis for the sound development of timber production and timber utilization. This is the specific purpose of the McSweeney bill.

The policy of the Department thus provides for three main activities:

(1) Direct administration and development of about one-fourth of our forest land, as National Forests.

(2) Cooperative service in the extension of timber growing on the other three-fourths by working with the States on fire protection, forest taxation, timber planting, and education concerning forestry practice.

(3) Research, to provide the best technical basis for the entire development on both public and private lands.

The first two of these activities are well provided for by existing policies and laws and by the McNary-Woodruff bill now pending which will set up a fiscal program for forest purchases. The third activity, research, while partially developed at the present time, is wholly inadequate to meet the requirements of this feature of the general program. The other developments in forestry have outstripped our basic scientific knowledge necessary to direct them soundly. This need would be met by the McSweeney bill program, bringing the research activities of the Department up to a parity in comprehensive effort with the other forestry work.

Enactment of the McSweeney bill and full development of the program contemplated by it would undoubtedly place the United States in the forefront of all the Nations in the world in the scope and aggressiveness of its attack upon the technical problems of forest utilization and forest economics.

The art of forestry in Europe has been developed through centuries of practice, fostered by the conservative temperament of the peoples and the necessity of making the most out of limited natural resources. Hence the problems of timber depletion and land idleness, which confront the United States today, have never occurred in Europe in any such acute form or staggering dimensions.

European forest research has been striking and distinctive in the number of specialized fields and in the case of individual scientific leaders. It will doubtless take some time before the United States will develop individual scientific leadership in certain limited fields of forest research equal to the best in Europe. Our problem is a different one because our past use of forest resources has so largely been untempered by conservatism and foresight. We have got to change over into a new conception toward, and a different use of, our forest resources as fast as possible in order to avoid serious economic difficulties. This peculiarly American problem makes our needs for forest research different from those of Europe. We must provide the scientific foundation for forestry under a tremendous range of soil and economic factors as rapidly as possible. Hence we must rapidly expand our research agencies to deal with the timber-growing problems of each region and the industrial and economic problems involved in the use of timber. No other country has ever had such a situation on its hands or has attempted to provide for its technical needs on the comprehensive basis now proposed.

This program now under consideration by the Committee will unquestionably place the United States in a leading position throughout the world in the comprehensive undertaking of forest research; and it is believed inevitable that out of this undertaking will evolve in no great length of time specialized scientific leadership in individual forest research problems equal to that in no other country.

The consumption of all kinds and grades

of paper, including boards and like products made from wood pulp, in the United States in 1926 was 11,807,000 tons. The wood required to manufacture this paper aside from other raw materials was 12,129,000 cords. The consumption of paper and allied wood pulp products has practically doubled during the last ten years.

It is estimated that the National Forests of Alaska under the plans of management now being developed will produce continuously and perpetually wood pulp sufficient to manufacture one million tons of paper annually. It is probable that this production will be somewhat increased as more intensive methods of forest culture are perfected.

INFORMATION DESIRED ON USE OF "PLUS-FOURS"

(Letter written to uniform committee in 1933, after adoption of "plus-fours" as part of the field uniform, see Service Bulletin, Feb. 20, 1928)

White City,
February 29, 1933

Uniform Committee,
Municipal Golf Links,
Red Dog, Arizona,

Gentlemen:

Having procured from my London tailor a pair of .60 calibre plaid "nickers" to augment my uniform equipment, and having tried them out, I wish to state that I am at a loss to contrive someway in which to use them with the rest of my field apparel, and would like you to advise me as to the proper manner in which to wear them.

A week ago these pants arrived, together with a pair of red and black golf stockings and a pair of low-countered buckskin shoes, with fringed flaps, or whatever you call them, hanging down over the front. Cost of outfit, with leatherette golf bag thrown in, $85.00.

I tied my "bronc" securely to a tree and went in and put the outfit on. On approaching the horse to mount, he showed unmistakable signs of having partaken of the deadly "Loco", though where he got it is a mystery to me, I having encountered none in this locality. He having broken up my new $10.00 bridle, and torn the horn off my new $95.00 saddle going through a wire fence, I am claiming reimbursement for the damage to this equipment. The horse is still wild-eyed, and at this writing, refused to eat.

Thinking that perhaps the new riding outfit might have something to do with the peculiar actions of my mount, I caught another horse, and went in and put on my chaps and spurs. Before going out again, I looked myself over in a full length mirror, and wish to state that the effect was extremely depressing, fostering many misgivings as to the desirability of the new addition to the uniform. From the rear view, I was reminded of a small boy posing as a cow-waddy. I was particularly annoyed by my spurs continually jumping up over the counter of the low shoes and chafing that part of my anatomy known as the Achillean tendon.

The pants being covered by the familiar chaps, however, I was able to mount, and sallied forth, the flaps on the front of my shoes beating time to the measured tread of my steed. About ¼ mile from the station, it being warm for this time of year, I removed the chaps (without dismounting) and hung them on the saddle horn (of my old saddle).

I met an old cow-hand acquaintance on the road and was shocked to note that he had become the victim of some strange malady, probably the effect of shell-shock or laughing gas. He seemed unable to control his laughter, and although formerly a good horseman, was almost unseated by his mount. I noticed that he had a rifle slung under his leg, and am of the opinion that mentally deranged persons should not be allowed to carry fire-arms. We parted, and after I had gone about 100 yards, something passed me, carrying away part of the left side of my new pants. I strongly suspect that this was a 45-90 lead slug.

I accelerated the pace of my mount, trusting that my (former) friend, being a bundle of nerves from uncontrolled hilarity, would be rendered ineffective as a marksman. Being now out of range, nothing further developed.

But to return to the new addition to the uniform: I returned to the station and had the pants mended (they are not paid for yet) and thinking that probably riding boots would go well with them, I put mine on. The effect was astounding, looking like nothing so much as a golfer in a stetson hat, standing in a couple of lard buckets, and the thought of the sticks and other debris that would collect in the boots caused me to remove them immediately and put on a pair of high laced shoes.

I rode forth again, but returned at the end of the first five miles, because the shoes hurt the front of my ankles.

However, nothing daunted, and determined not to be beaten by a pair of pants, I changed to a regulation cavalry saddle (you know, the kind that pinches your legs) and started out again, riding 10 miles to the XYX cow camp, where I arrived in great agony, with the unprotected calves of my legs pinched blue, and with my new golf stockings in shreds from the brush and branches (I traveled by an unfrequented byway).

There were about 100 head of range cattle in the camp pasture, and although I rode slowly and carefully as is my custom, and did nothing to alarm them, I have to report that they acted in an unprecedented manner, stampeding and demolishing $\frac{1}{4}$ mile of new pasture fence. I can only conclude that their action was caused by my strange appearance, in the new pants. (I was careful, too, to select a color, when ordering them, that would not clash with my surroundings).

Hope you will excuse the mistakes in this letter, it having been written in bed here, I being completely crippled up.

Wish to state that I have accomplished nothing since putting on the new pants. They don't seem to fit in with my work, and am anxiously awaiting instructions from you as to their proper use.

Resp,

(Signed) J. R. Ahl

Forest Ranger

SIX KILLED WHEN TREE AFIRE FALLS ON CAR

Leaf, Miss., March 22. - Five school children and the driver of an automobile conveying the children from the Salem School to Leaf were burned to death near here late today when a huge pine tree afire beside the road fell upon the passing automobile. Two pupils in the rear seat were thrown from the car and suffered broken legs, while one occupant of the car, a girl, escaped uninjured.

The driver killed was Dave Doss. His daughter, Marie, died with him when the tree fell across the front seat of the automobile. Nettie and Hattie Doss and another Miss Doss, nieces of the driver, and a Miss Mizell in the rear seat were burned to death.

The injured were taken to a Leaf hospital for medical attention. - The Washington, D. C., Post, March 23.

WHAT PUBLIC FORESTRY ASKS OF THE LUMBERMAN

Mr. S. T. Dana, Dean of the Michigan Forest School, in his address at the American Forestry meeting at St. Louis strongly emphasized the importance of public forosts.

"The forest program," he said, "is too big, complex, and acute to be solved by private owners alone. The entire public must do its share in meeting the situation, and the establishment of public forests constitutes one of the most effective means of doing this.

"The opening up of one forest region after another, as the lumber industry has crossed the continent from the Atlantic to the Pacific, has made possible the meeting of our wood requirements. As a result, many do not realize that this situation will be entirely changed with the exhaustion during the next few decades of the remaining supply of virgin timber on the Pacific Coast. We shall then have to grow the bulk of our own timber or go without. The difficulty of doing this can perhaps be best appreciated by reminding ourselves that we are now using from four to five times as much wood as we grow and that we have some 81 million acres of cut and burned-over forest land which is virtually a desert so far as the production of useful timber is concerned. Very little of our forest land is producing what it might under effective methods of forest management; yet in order to meet our own needs it will be necessary to raise the production on every acre of our forest land, including that which is now wholly or partially idle, to the level achieved by the more progressive European countries.

"The immensity of this task is emphasized by the fact that even crude forestry measures are now being practiced by private owners on only about five per cent of the total forest area in private ownership. While the area of conservatively managed lands will doubtless continue to increase steadily, and perhaps rapidly, it is perfectly clear that progress in this direction will not be fast enough to meet the urgent needs of the situation, Public forests will be of the utmost help in doing this, particularly on the poorer lands which are likely to be the last to receive attention from private owners. In many cases public ownership offers the only sure means of maintaining the productivity of forest lands and we have now reached the point in the utilization of our forest resources where the fate of every acre counts.

"The stabilizing effect of a large area of well-distributed public forests has an importance which it is difficult to overestimate. There is every reason to believe that public forests will continue to be handled so as to maintain a continuous supply of timber. This not only means that they can be counted on to contribute indefinitely a considerable share of our local and national wood requirements, but also that they have a beneficial stabilizing influence on the entire lumber industry....

"Economically, socially, and historically, public forests are an essential part of any well-rounded national forestry policy. Timberland owners and the lumber industry under their sympathetic support and hearty cooperation may assure their successful management by extending their present area."

MEDICINE BOW AND HAYDEN FORESTS TO RECEIVE ADDITIONAL NATIONAL ADVERTISING

Largely as the result of the "Show them" three day trip taken by President Gray, Vice President Adams, and General Passenger Agent Bassinger of the Union Pacific Railroad Company last season to the Hayden and Medicine Bow Forests, a folder on Southeastern Wyoming was issued by the railroad. This folder, while issued primarily for the tourist, also called attention to the timber, oil, ranch and other resources with particular reference to the two Forest areas. This year, in July, the railroad in cooperation with the Wyoming Department of Commerce and Industry, is sending Jack Bristol of their publicity department into the region to secure pictures and material for further publications.- MEDICINE BOW.

PRUNING WHITE PINE

Speaking before the Branch of Public Relations of the Washington Office, Mr. W. B. Deering, of Hollis Center, Maine, told about pruning white pine successfully and profitably. He uses a saw blade about 18 inches long, 3 inches wide at one end and 2 inches at the other, made of 17 gage steel. There are 4 teeth to the inch, set so as to cut with a downward pull and the saw blade is fastened at an angle of 30 degrees to a 10-foot pole. He prunes only dead limbs from the 16-foot butt log. He states that a man can prune a tree in 2 to 4 minutes or about 100 running feet of tree trunk per hour. This is at the rate of about 7, 16-foot logs per hour. This figures out a cost of about 8 cents per tree. Mr. Deering stated that the big end of money making in timber is in growing it. - W. R. M.

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CORRECTION

The last column of table on page 3 of April 2 issue of the Bulletin should read "Timber cut under Exchanges FOR land to which title has been accepted."

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ORGANIZATION OF FOREST EXECUTIVE ASSISTANTS

By H. B. Herms, D. 7.

Why not? It has occurred to me that we should have such an organization for informal discussions of our work in the Forest Service - pure and simple.

I would like to informally discuss, through the medium of a mimeographed paper, Comptroller's Decisions, the work in the Supervisors' offices, the District Offices, the Washington office and others. I recently read a Comptroller's Decision on a dead horse claim, and a few months ago a decision on the same subject - the second either easing up on the first, or else a positive statement that written contracts for equipment are worthless. If they are worthless in so far as the Comptroller is concerned, why have written contracts? I would like to informally discuss Form 2 and Form 3 vouchers. Why can't we have a Form 2 voucher for temporary laborers like the new Standard Form 1013 d for employees under appointment? If we can, then why have the Form 3? Forms 2 are twice letter size, while Form 1013 d are letter size and handy. At the recent meeting of Chief Clerks in District 3, papers were read and discussed that were extremely valuable to all present. We could have similar papers prepared and mimeographed in pamphlet form. At the same meeting the Receipts Register was discussed and endorsed by a large majority - much to my surprise, but I can see the point better now.

We would want as members all Executive Assistants, and others who have been Chief Clerks - maybe we will enroll some who are now Fiscal Agents, Deputies, Forest Supervisors and Assistant Supervisors, and we will want them as members.

I will try to get the Forester's approval for making our paper official, although informal. The sole idea to better fit ourselves for the job in which engaged.

Maybe you are doing something that the rest of us could do - if you will let the rest of us know about it. There may be forms which you consider worthless; perhaps you are using some private form that the rest of us ought to have. Our paper will be a place for exchange of ideas and discussions. Big accomplishments are the result of organized effort. Let the rest of us have some of your ideas, and we as a body can bring the matter to a head.

If this organization can be started and given a little breath of life, I assure you it will live for those who want it. If this article gets into the Service Bulletin, you can assume that Messrs. Pooler, Headley, Kelley and Loving have endorsed the idea, for I have asked them for their endorsement. If the idea takes with YOU, please write to me personally in care of the District Forester, Washington, D. C. I will ride herd on the organization for the present. Franked envelopes can be used. It is hoped that most of the present Executive Assistants will respond; also a good many of the past Forest Chief Clerks.

DESIGNING ROADS FOR A GIVEN SPEED
Part 5

By T. W. NORCROSS, Washington.

The investigations at the Pedlar River Plot were restricted to the conditions which must be provided for in the National Forest road work. Speeds of 40 to 60 miles an hour are frequent these days but the quality and quantity of National Forest service that is most greatly needed right now will be adequately provided by decidedly lower speeds.

The variables and constants at Pedlar River have previously been stated. What would be the result if one or more of the constants had been made a variable, either with or without one or more of the variables being made a constant?

Suppose gradient on the curve is essential, what will be the safe speeds? Data are now lacking and must be secured. What will be the speed if the gradient at the curve is level but it is impossible at reasonable expense to keep the road surface smooth during the time when the curve should render maximum service? The exact effect of unevenness and roughness of the road surface are not known but it is clear that the condition of the road surface has a very great effect on speed.

It is generally known that on sidehill roads the sharpness of the slope of the hill and the distance to where the car would apparently stop if it left the road, have a pronounced retarding effect on speed. If this condition had been introduced at Pedlar River, what speeds would have resulted. Very possibly on open curves with no grade, the loss in speed will be inappreciable provided the same conditions of "fall-off" exist on the approach to the curve. Actual test on an existing road may be the means of getting the desired data.

The Pedlar River tests were of open curves. How about blind curves? Just what we shall select as the safe speeds has not yet been fully decided. The conditions affecting speed on blind curves are decidedly different from those on open curves. This is always true of single track roads and frequently true of double-track roads. It is very evident that decided changes from the data for open curves must be made.

In the case of blind curves, the fear of meeting the "other fellow" at the curve has a predominant effect on the speed. The clear-sight distance and the distance required to come to a complete stop are therefore controlling factors. To decide on speeds to be used in road design the construction of test curves or observation on existing roads is unnecessary since office measurement of clear sight distance for the different radii can be readily made and since many tests have already been made of distance and time required for stopping at various speeds.

The reaction time - the time required for the driver to realize danger and apply brakes - is a very important factor. Should the drivers in the National Forests be considered of average or possibly maximum alertness or cleverness? The condition of the brakes and whether these are 2 wheel or 4 wheel has an even greater effect. Probably safety requires that selection be made of brakes in an operating condition of average efficiency. Now that the Ford has the 4 wheel brakes, should conclusions and designs be based on the stopping distance with 4 wheel brakes?

This may be an appropriate time for calling attention to the fact that a blind curve is not always an out curve, and that an out curve is sometimes an open curve. Trees, but more often brush are the cause of making in-curves, blind. In the Forest road work, examples are frequent of brush requiring the speed to be reduced below that which the curve itself makes possible. Usually the proper action is to clear for a sufficient distance to make unnecessary any speed reduction due to sight distance.

GRAZING PROBLEMS IN NORTHWEST COLORADO CLEARING

By John H. Hatton, D. 2.

One of the most difficult situations that has developed in the District took form about two years ago in northwest Colorado in connection with the sheep grazing on the Routt Forest. There had been little or no previous demand for sheep by Colorado applicants in this territory and preferences extending over many years had been established by Wyoming people. With the elimination of cattle through depression, northwest Colorado settlements found they had expensive land holdings which were not productive and many thought they wanted to go into sheep. Public meetings were held and organized propaganda started to compel the Forest Service to cut down or wipe out the Wyoming preferences on the basis of State lines as fast as the Colorado people would use the range. They pointed to hay stacks two and three years old down in the valley for which there was no market nor livestock to consume. The Service took the position that established preferences, even though from another State, built up and based on large investments, could not and should not be wiped out with a mere gesture, and through all the controversy consistently held to this policy and principle. It advocated that an economic study be made of the northwest Colorado situation on the theory that there would be other ways in protecting land investments and settlements without the drastic action urged by the people in that locality. Such a survey was made.

Now comes the report from the Supervisor that the surplus hay production in northwest Colorado has been proven to be largely a myth, or a temporary condition. With only one year of short crop, with land holders diverting some of their hay lands to other crops, plus a few more livestock, particularly dry sheep being winter fed, there is likely even to be a real shortage of hay before another crop, and the present prices have advanced to $8 per ton in the stack. Hay will be hay in a real sense before spring in that locality.

It is just another illustration of the adherence to economic principles and the recognition that bona fide investments and preferences are entitled to reasonable protection and consideration in the handling of National Forest ranges. There have been no protest meetings this past winter to discuss the use of range by Wyoming sheep. A year or two ago, such protests reached all the way to the National Capital.

TWENTY TWO-YEARS SERVICE

By Carl B. Neal, Umpqua

George A. Bonebrake, on December 31, 1927, terminated twenty-two years continuous service on the Umpqua National Forest. In 1921, he had the great misfortune to receive a severe injury to one of his eyes while fighting an incendiary fire in the White Rock District. The injury was so severe that the use of one eye was entirely destroyed. The strain on the other eye gradually weakened it, and it was because he was afraid that if he continued to carry on his work he would lose the sight of the second eye, that he left the Service.

Bonebrake was born near Roseburg, on December 12, 1873. In 1906, at the age of thirty-three, and after a brief period of railroading and farming, he began his career on the Umpqua by accepting an appointment as Forest Guard. His station that year was at Black Rock. He served successively as Assistant Forest Ranger, Deputy Forest Ranger, and Forest Ranger. From 1912 to his retirement he was Deputy Forest Supervisor. Beginning with 1907, he was assigned to the Supervisor's office. He was one of that group of Rangers who attended the late-lamented "Short-Horn Forestry Course", University of Washington, in the spring of 1910. Almost every member of this group has since attained renown in District 6.

To serve continuously on one Forest for twenty-two years is in itself a record. To serve a Forest for that length of time with the loyalty, faithfulness, and unselfishness that was characteristic of Bonebrake is a record and an achievement of which both he and the Service can justly be proud.

Bonebrake has always had the respect and good will of every one with whom he has come in contact. No one ever doubted his integrity. He was undoubtedly the most popular Forest officer ever on the Umpqua, not only among his fellow workers but with homesteaders and permittees as well. He had that rare ability, a PR quality, which enabled him to exercise his loyalty to the Forest Service and retain the good will of all with whom as a Forest officer he had to deal. His retirement is keenly felt on the Umpqua, and all of us wish him many years of happiness and success.

MORE ABOUT MOTION PICTURE REELS

In order that reels leave this office in good condition, we are running them through our projector before sending them out. If breaks are found they are mended, so no trouble should be experienced with the films that come from this office. We hope that if a reel breaks in the course of showing that the Forest concerned will mend it so the next Forest will not have to show a film with several breaks in it. If you have no mending cement, please notify this office and we will see that you get the proper kind. - D.4. Daily News.

Service Bulletin

U.S. FOREST SERVICE
(Contents Confidential)

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"THE ISLAND OF ENCHANTMENT"

by E. A. Sherman

As a result of the Spanish-American War, the United States became the owner of all "crown lands" in Porto Rico. In 1903 President Roosevelt reserved an area of about 65,000 acres as the Luquillo National Forest; all remaining crown lands not otherwise reserved were granted to the Insular Government. At the time the National Forest was created, the Federal Government supposed it was withdrawing all crown lands in the high mountains at the eastern end of the island. When survey was finally made it was found that somewhere between 1,000 and 4,000 acres of such lands were not within the boundaries of the Luquillo but adjoined it on the east. The legislature of Porto Rico, by resolution passed in 1916, authorized the Commissioner of the Interior to transfer such adjoining lands as are owned by the Territory to the Federal Government for National Forest purposes.

District Forester Kelley and the writer visited the island - in song, story, and local boosting known as "The Island of Enchantment" - in March, spending eleven days in a trip of about 700 miles which not only included the Luquillo National Forest but encircled the entire island. It was the first official trip to the island by any member of the Forest Service since Peters' and Murphy's visit in 1911, at which time the latter prepared a very excellent bulletin on the forests of Porto Rico. Fear of criticism rather than neglect has prevented more frequent visits and better understanding. Consequently, though the Forest has theoretically been under administration, as a matter of fact little has been done save to protect it from fire and develop roads and trails.

Major Kelley and I, when we reached the island, were amazed to find the Forest much more accessible than had generally been supposed. In a closed car we drove to within three-quarters of a mile of the Forest boundary, and from there, on saddle horses, followed a good Forest Service trail into the Forest and to the summit of El Yunque, the highest point on the island. Here we saw for the first time such a forest as we had each read and dreamed of but never expected to see - a virgin tropical forest. The highest part of the Luquillo is covered by the hurricane type of forest, varying from five to twelve feet in height, of four or five different tree species, the whole resembling somewhat the chaparral of the Southwest.

The Luquillo is inaccessible in the sense that steep mountain country, with heavy rainfall, offers obstacles to transportation. The land is occupied and utilized to the very margin of the Forest, and even inside the boundaries some areas are used for coffee plantations, under an informal arrangement.

Fuel is a serious problem. The island, rough and mountainous, has a population of

1,500,000 and an area of about 2,000,000 acres, a considerable percentage of which is rough and unfit for cultivation. About 155,000 acres are over 2,000 feet in elevation. The universal fuel is charcoal, and the almost universal cookstove is made out of John D's famous 5-gallon can. There is a great demand for fuel, and the Service should do all it can to meet the demand.

As a result of our investigation Major Kelley and I were convinced that all provisions of the Weeks law should be extended to Porto Rico, and that the Forest should be enlarged somewhat through the purchase of adjoining land of similar type. The Commissioner of the Interior has now agreed to transfer to the Federal Government all adjoining lands to which the Insular Government has title, as authorized by the legislature. The ultimate area through reservation, gift, and purchase may reach 25,000 or 30,000 acres.

The Insular Forest Service of Porto Rico is one place where leadership has been local rather than federal. The forestry budget of the Insular Government now exceeds $30,000 annually. During the time the Forest Service has had a representative on the island, the planting problem has been fairly well worked out, and the idea of forest planting has been thoroughly sold to many private owners, so that the demand for planting stock is now five times as great as the three nurseries established by the Insular Government can furnish. Planting stock is furnished without cost, the species planted being mainly mahogany, cedro, and other broadleaved species. A good deal of direct seeding to maria is being done. This is a rapid-growing hardwood. The rapidity of growth in the Porto Rican forests is amazing. Mr. Kramer claims that sample plots of mangrove indicate that it can be handled for fuel on a 7-year rotation, with an average yield of 5 cords per acre per annum. He makes the same claim for the bayhonda tree on the south side of the island, a species similar to the mesquite. The most wonderful growth seen was a single casuarina, between 50 and 60 feet in height, 8 inches in diameter at breastheight, and 6 years old.

There is quite a forest fire problem on the island. The high dry lands on the south side of the mountain range, which extends east and west, are good timber-producing lands of little value for any other purpose. Planting is necessary, and the fire hazard high for the first five or ten years. There has been no planting on any part of the National Forest, which is composed of virgin timber in which there has been no cutting. The absence of bird and animal life is astonishing. This is largely due to the mongoose. This little animal was introduced from India to destroy the rodents which had overrun the island. It destroyed not only the rodents and snakes but practically every other living thing within reach and is now a pest itself.

Excepting on the sugar plantations and in pineapple fields owned by big corporations, everything is hand cultivated. Most interesting of all was the tobacco region where every patch of land having sufficient soil to produce a crop is planted to tobacco, no matter how steep. Nowhere in the States will one find such precipitous slopes being farmed, gradients of 100 per cent and over being encountered. One wonders if the man with the hoe wears a parachute while at work. In spite of the steep slopes, gully erosion does not take place, although terracing and contour cultivation are unknown on the island. The fields look like patch work - each patch being some individual's crop. There is a fine opportunity for the sugar centrals to carry on to a limited extent orchard forestry of the more valuable cabinet woods.

Governor Towner and Commissioner Chardon of the Department of Agriculture were found to have a very clear understanding of the important part it is possible for forestry to play in the future economic development of the island. At the personal request of the Governor a comprehensive report has been submitted covering all phases of the problem in a general way. The outstanding feature of the program recommended for the Insular Government is the purchase and reforestation of between 100,000 and 150,000 acres of land for public forests over a period of fifteen years, at a total cost of about $1,500,000. One of the results of such a program if actually carried out would be to make Porto Rico an "Island of Enchantment" indeed.

TWENTY YEARS AGO IN NEW MEXICO

By Fred Winn D. 3.

Twenty years ago on April 8 a group of about forty Forest officers were photographed on the steps of the Grant County New Mexico court house in Silver City. The Washington Office of that day was represented by a number of G. P's bright young men, (there was no District Office); the three Inspectors from Albuquerque, were present; about twenty Rangers and a Supervisor or two from the Gila (S), Gila (N), San Mateo and Magdalena National Forests made up the balance. The period was of the great days of the Republic. T. R. was President, "Tama Jim" Wilson, Secretary of Agriculture, G. P., Forester. The lean-faced, hard visaged range men, prospectors, miners, and nesters of the wide open spaces were by no means sold to the Forest Service two decades ago. The citizenry of Silver City and the hinterland received the gathering with rather sceptical and more or less scornful glances, but the merchants and other dispensers of goods, both wet and dry, were less critical. The Silver City paper mentioned the "Gathering of the EMBOTTLED Forest Reserve Officers". A helluva note! Everybody laughed. An error on the part of the printer's devil? Possibly. Most had come direct from long months spent in the tall sticks and in the brush, and were booted; yes, and even spurred. Their boots clumped, clumped, clumped up and down the court house steps and the Silver City sidewalks. In some quarters, these boots and spurs would be frowned upon in these modern days.

The Act of June 11, 1906, or the Forest Homestead Act was less than two years old on that April day and had been the leading topic of discussion. The job was to make surveyors, land examiners, and soil experts out of a heterogeneous gathering of potential uplifters and it was some job! Timber sales, grazing, and fire came in for some discussion, grazing least of all, for no one knew exactly where we were "at" in grazing. It managed itself instead of being managed. Work plans were carried in heads and the discussion was positive, picturesque, and, at times, profane. No "Yes" men or machine-made specimens of the genus homo, these. Nothing was known of "service" except it be that rendered by a white-aproned scoundrel behind a broad expanse of mahogany. The horse was still king in Silver City in those days of twenty years ago and eight mule freight teams, followed by their wagons, were raising the dust and making ruts in the Silver City streets.

A number of those who were photographed have travelled over the last long trail; others are leading citizens, or otherwise, in various parts of the world; Kneipp, Clapp, Kerr, Mattoon, Waha, Cecil, and the writer are the survivors remaining in the Service of the group which posed on the Grant County courthouse steps on April 8, 1908. Lots of water has gone under the bridge since then and the Forest Service has made wonderful progress during these eventful years.

SAVING SOME FOR POSTERITY

By W. G. Weigle, Snoqualmie

Realizing that the virgin stands of timber in the State of Washington were rapidly disappearing and that it would not be many years until it would be impossible to look upon any of the wonderful timber now so common throughout the Coast region, the Washington State Federation of Women's Clubs started a movement to purchase a tract of virgin timber to be held in perpetuity as a State Park. After an examination of many stands of timber, they decided upon the purchase of a tract of 62 acres lying on both sides of the Sunset Highway about 50 miles east of Seattle. This tract contains some of the finest Douglas fir in the State of Washington. The purchase price of the tract was $30,000 which was raised by popular subscription. The full amount of money has been raised and the deed was turned over to the Federation of Women's Clubs on January 3.

TRAINING BY SPECIALISTS

By P. Keplinger, D. 2.

In the "Official Record" for February 29 I saw a paragraph that reminded me of some of our Service discussions and opinions. The paragraph is "Salesmen of knowledge", on page 4. You know it has been contended that all training work in the Service should be done by specialists; not specialists in training but specialists in administration, investigations, public relations, etc. Last fall our District Forester was criticised by a Washington inspector because he did not follow that plan at our ranger training camp. I am not writing this to defend the District Forester - he can take care of himself - nor to justify my own work in training. As for the latter, it is just a job to which I am assigned; someone else is responsible for the assignment.

Now the reference given above gives the opinion of Dr. Glenn Frank, President of the University of Wisconsin. He says that rarely can the specialist in other lines do well the instruction job. Further, in his opinion, we "shall never lack for the administrator", and also that "we have an ample supply of investigators," but the third man, the interpreter, the "salesman of knowledge," that is the trainer, is where the real shortage exists.

That is the academic point of view, but what of industrial or "job" training? Let me quote from Dr. Charles R. Allen, an expert in industrial training, Federal Board of Vocational Education:

"It is commonly assumed that if a man can do a job himself he can teach a learner how to do it. This is not the case, however. Many men who can do a first class job cannot teach anybody else how to do that job. The two qualities do not necessarily go together. Some men are natural teachers, but such men are rare." Also he says, "It may be properly said that there is an instructors' "trade", just as much as there is a machinists' "trade", or a printers' "trade", and the instructor will be efficient in proportion as he knows HIS trade, that is, the instructing trade".

The opinions of these two men do not necessarily prove anything but they do suggest that it might be well to do a little research on the subject and not bank too much on our own rule-of-thumb ideas. They suggest also that our "specialists" need to specialize a bit on a new "trade", if they are going to take up work along a new line of specialized activity.

THE EVOLUTION FROM LAND-LOOKER TO FORESTER

The following is quoted from a booklet by a prominent firm of logging engineers:

"Logged-off lands never meant much to a lumberman and rightly. His money came from the virgin timber. But the fact remains that whenever he logs he is at once in the cut-over land business whether or no.

"The problem is, How if at all these lands can be made to show a profit? Others have done it. Certainly if there is a chance to grow timber it deserves as much consideration as the industrial opportunities in manufacturing lumber.

"Several companies who used to think, work, and make money in terms of saw-logs have branched out now that the supply of virgin timber seems limited and are really making money on smaller stuff.

"It's a new game though and one that calls for a different type of woodsman. Lumber is not the main consideration. Reforestation, state forestry laws, taxes, new market possibilities for pulpwood, poles, posts, ties, and naval stores, etc., call for both economic and engineering data.

"This is why within our own organization our field men have evoluted from scouts to land-lookers to timber cruisers, and then to foresters. Our staff now is finally composed almost without exception of technically trained forest engineers."

BRASS TACKS

Referring to the article "Wanted - A Moses" in the February 6 issue of the Service Bulletin, District Forester Show asks District 6 for cases. District Forester Granger sends us copy of a memorandum, without comment, and says he regards the subject as one which is always in order. This memorandum, which was written by Shirley Buck, follows:

Report	Suggestion
1. District Office: Quarterly Report of Receipts.	1. Annually
2. Predatory Animal Report.	2. To be made by Biological Survey.
3. Form 438.	3. Abandon
4. Five Year Game Plan	4. "
5. Quarterly Report, Timber Cut Commercial Sales.)	5-8 Showing in Annual Statistical Report Sufficient.
6. Quarterly Report, Timber Cut in Sales at Cost)	
7. Quarterly Report Timber Sold in Commercial Sales)	
8. Quarterly Report Timber Sold in Sales at Cost)	
9. Damage Reports, Class B Fire	9. Abandon
10. Sheets A-K	10. " . Use D-6 Summary
11. Motor Operation Costs for Atlas	11 "
12. Refund Sheets for Atlas.	12. "
13. Recreation Report.	13. " , or at least abbreviate.
14. Annual Improvements and Forest Camp Report	14. Change to two- or three-year basis.
15. Annual Statistical Report.	15. A complete overhauling, to the end that super-refinement may be eliminated; that columns and sections whose value is past may be eliminated; that consideration be given to putting on a greater than annual basis the sections, such as the Agricultural Settlement.

This does not cover the field, but is sufficient for one to begin upon if he wishes to undertake what I feel to be a worth-while project.

COFFEE FIENDS, ATTENTION!

Thank heaven there is one bad habit that has had a good word said for it at last - coffee drinking. Ye who have felt the kick of hot black coffee in camp before breakfast - ye to whom its fumes are even more alluring than tobacco, take heart and drink as much as you want - up to 150 cups! Professor Ralph H. Cheney, of the biology department of New York University, announces that coffee is not only harmless but beneficial. "Evidence derived from my study of the effect of coffee on animals and man," Professor Cheny declared recently, "indicates that the properly prepared beverage is highly advantageous with respect to over 90 per cent of normal individuals. Judging from the effect of aqueous solutions of caffeine or of the coffee beverage taken through the stomach in the 1.5 grain quantities such as exist in the average coffee cup, the reasonable use of coffee is a great blessing to man. To be sure, caffeine is a drug and its use can be abused, but acute injury, as far as the caffeine content is concerned, would necessitate the consumption of over 150 cups, which is of course ridiculous. Psychological responses of amiability and a sense of well-being and good cheer are undeniable accompaniments of the coffee beverage and the physiological effects are also non-injurious and gratifying. Temporary relief from hunger and fatigue is a general result, and light headaches, due to other than gastric disturbances, are commonly alleviated. Coffee serves as a mild stimulant of the heart, brain, and muscles, thereby accomplishing greater power and coordination in mental and physical endeavors. The outstanding fact to be heralded in favor of coffee is the absence of any after effect or subnormal, recuperation period. (Science)

BONNER APPOINTED MEMBER OF COMMISSION TO INVESTIGATE FAILURE OF ST. FRANCIS DAM

Governor Young of California has appointed District Engineer Bonner as a member of the commission of engineers who are to investigate the failure of the St. Francis Dam.

FIELD TIME

By C. N. Woods, D. 4.

It has been stated a number of times, to our knowledge, that some people are overstressing field time. During the past few months light has been made by certain Forest Service inspectors of field time. One of them suggested it was being overstressed; another, that estimates and plans were made for so many days in the field, with little if any indication in the plans as to what was to be done while in the field. We are glad to be able to say that we have never seen plans so incomplete as this inspector suggests. We would not call such a document a plan at all. This may have been a case of mistaken identity.

The reason for stressing field time is that most of the work is in the field, and it cannot be done in the office or at headquarters. Besides, on most of our districts weather conditions make field work rather impractical a number of days each year, and during such periods a lot or most of office and headquarters work can be done. Again, we are human, and the personal interests of most of us are at headquarters.

It should be unnecessary to say that field time is not an end in itself, just as it is unnecessary to say the work of sharpening an ax is not an end in itself. Yet, one National Forest inspector said one of his men had stopped in the field to write up a report, rather than write it after returning to his headquarters, in order to increase his field time. It is often necessary to stress the importance of means to end. In fact, if sufficient stress is placed on the means, there is a good probability that the end will be accomplished.

So long as there are found many more cases of too little field time, than cases of too little office and headquarters time, just that long will it be advisable to stress field time.

Certainly high field time is not conclusive as to efficiency, but there is much less chance of things going wrong, much more chance of field work being properly done with considerable time spent in the field than otherwise.

DESIGNING ROADS FOR A GIVEN SPEED

Part 6

By T. W. NORCROSS, Washington.

For side-hill work, the interest, so far as practically all the Forest Development roads are concerned, is in the narrow widths. For the lower service roads on the Forest Highway system, the studies may prove that the 12 foot width or possibly even the 9 will at times be adequate for side-hill sections.

The Pedlar River tests provided data on the safe speeds with curvature of 100 foot radius. If the test sections had been straight, i. e. tangents, it is obvious that the recorded speed would have been greater than that for certain combinations especially those involving the sharper curvature. Willthe 100 foot radius give a speed as great as a tangent? If not, at what radius would curvature stop its influence on speed with the road widths of 9 and 12 feet?

Realizing that where width is the only variable, a road 12 feet wide will be somewhat faster than one 9 feet wide, what is the ratio of the two speeds?

These questions must be answered. Sufficiently accurate data can probably be secured from tests made on existing roads.

It is not generally realized that on tangents or sections that involve only slight curvature, the cross-section itself and the relationship of the road to the surrounding country has a very marked effect on speed. Where grade and surface are not controlling factors, the extremes of speed are probably the simple turnpike sections over flat country and the sections on steep side-hills with a "fall-off" of 50 feet or more. Just what these extremes are must be ascertained.

Probably the safe speeds on tangent sections cannot be as closely defined as in the case of curves, since there are many variables. Also the peculiarities of individual drivers must be given weight. While some drivers constantly will drive faster than others with a certain combination of the elements of standard, observation of the performance of many drivers, recognized as safe and sane, indicates that this difference is not really great. The performance of the driver who does not have his car under control is of no interest.

In between the extreme combinations above described there fall many other combinations - high turnpike, high through-fill, through-cut, sidehill in the solid but with a fall-off of a comparatively short distance, sidehill on fairly gentle slopes, etc. For several cross-sections, the investigation cannot be restricted to the 9 and 12 foot widths. It is hoped that the desired data can be secured through observations on existing roads.

Whether a road be of crown or inslope section has a considerable influence but this is of most importance when the section is not properly shaped for the travel.

Every driver knows how he must constantly fight a strongly insloped road and that a heavily crowned section results in straddling the center and a two rut road. Where surfacing is not justified and the natural material gets slippery when wet, safety and not speed must govern the determination of cross-section. In all cases, the section which will result in no ruts or if ruts are unavoidable, in ruts of the same depth will probably be that affording the maximum safe speed.

In the tests to determine the effect of variable widths on speed, effort will be made to eliminate controls by grade and surface. These of course exert a marked influence but introduction of too many variables at one time will make it very difficult if not practically impossible to arrive at proper conclusions.

FOREST WEEK RADIO PROGRAM

The American Forest Week radio program, which is to be broadcast over the National Broadcasting Company's "red network" April 23 from 8 to 8:30 eastern standard time, will include besides President Coolidge the Honorable Charles Stewart, Minister of Interior, Dominion of Canada, and Louise Homer Stires, soprano.

SEEDLINGS VS. TRANSPLANTS

A striking example of the value of western yellow pine transplants for planting exposed situations in regions where there is limited rainfall is given in the annual planting report of the Uncompahgre Forest. Two plantations of about 52 acres each were installed in 1923, using 3-year old seedlings and 3-1 transplants. The original costs of the plantations were $14.98 an acre for the seedlings and $20.03 for the transplants. At the close of the 5th growing season, when it was thought that the trees were thoroughly established, the seedlings had a survival of 208 to the acre, or 28 per cent, while the transplants had 493 living trees to the acre, or 64 per cent. On the basis of the original cost of planting and the per cent living at the close of the 5th year, the surviving trees show a final cost of $53.50 an acre for the seedlings and $31.29 for the transplants. On the basis of 1,000 trees, the final cost of the seedlings is $70.67 and of the transplants $40.32 per M. - District 2.

¿ HABLE USTED ESPANOL?

Will C. Barnes' writings are so popular that they have been translated into Spanish. His article "Reindeer Meat - A New Source of Food" is reproduced in the March 1928 issue of "Revista Internacional de Dun," published by R. G. Dun & Company, New York.

A formula giving results practically identical with those of the Scribner Decimal C scale rule has been developed by C. E. Knouf, of the Weyerhaeuser Scaling Bureau, as follows: Square the average diameter of the top end of the log inside bark, subtract from this product the average diameter multiplied by three, multiply the remainder by one-half the length, and point off the right-hand figure. Algebraically expressed, the formula is: $(D_2 - 3D)\ \frac{1}{2}L$. divided by 10. For a log 20 inches in average diameter and 16 feet long this formula gives the contents as 272 feet. The Scribner scale gives 280 feet. - D. 3 Bulletin.

TRAGEDY ON THE MONONGAHELA

During the spring months the Monongahela acquired its first pack animal, a Jenny or burro.

The Jenny performed faithful service packing supplies to trail, telephone, and other improvement crews. She was very effectively used in carrying telephone equipment for a small maintenance crew. During the construction of the Smoke Camp Lookout Tower the cook made two trips a day with the Jenny to a nearby spring. After tying two casks of water to the burro, she faithfully returned every time ahead of the cook. After the completion of the tower the burro was used to pack equipment and supplies from the tower to Ranger Station. In making the last trip the Jenny was fatally kicked by a pinto. It was necessary to shoot her. She was buried at the foot of the tower with full honors, and the Towerman will erect a stone slab to mark her last resting place. - D. 7 Digest.

THE IFS OF LIVING IN WASHINGTON

"I haven't received the original B/L for my household goods. The goods might get here and if I had the B/L I could get them from the railroad if I had an apartment. I'll get the apartment if I decide where I want to live if I can get the money for the rent. - Herms.".

TOWN FORESTS

New Hampshire now has 61 town forests with a total area of 11,643 acres and an established value of $828,000.00. Some towns have purchased their forest land; others have received their forest land from the charter. Newington, as an example, has held title to its land since 1710. These town forests are being reforested naturally and by the planting of seedlings as rapidly as possible and are increasing in valuation from year to year. They now serve as recreational areas but eventually will bring in a good income to towns or cities, helping to reduce taxes.--- D. 3 Daily Bulletin.

Service Bulletin
U.S. FOREST SERVICE
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EDUCATIONAL TESTS

By Fred Morrell, D. 1.

Two or three years ago a proposal was made that the Forest Service adopt a system of examinations on which to base eligibility for advancement in grade. The writer opposed the idea on the grounds that there are too many elements entering into the qualifications of men for executive positions that we do not know how to test by written examination and that the scheme would result either in disappointment to many men who might pass such examinations as would be set up, but who would not be selected for advancement, or too much weight would be given to the examinations and the men best fitted for advancement would not be selected.

The subject is revived now through one of the Washington Office's objectives; "Study and test of examinations as a means of encouraging individual progress in technical qualifications." I do not know what form this study is to take, but if directed along the right lines it seems to be a very meritorious project. The Forest Service is composed of men and women whose "sheepskins" vary all the way from diplomas from ungraded country schools to doctorates from the best universities. If they were displayed we would find country school diplomas behind the desks of some of the men of high rank. No greater mistake could be made than to assume that these diplomas are criteria of the education of the men to whom they belong. There are no "uneducated men in high rank in the Forest Service. In fact "uneducated" men are not staying in the Forest Service in any grade. There are wide ranges in educational attainments, of course, but school training is only one of many indices by which they may be measured.

But school diplomas are still given too much weight in measuring men's education. That is because the man who possesses one has lasting, concrete evidence of certain educational attainments. The man who does not possess one has no similar concrete evidence in his favor. He must depend on his fellow workers, one after another, to discover what he knows. He is always in the position of having to prove his case.

Rating officers are always inquiring regarding a man's education. "What is his schooling? What study courses has he taken? How much does he know about this and that?" are questions always in the foreground. Concrete evidence on which to base comparisons is sadly lacking and that results in many mistakes which might be avoided were it available.

Why would not tests of technical knowledge be a legitimate and valuable aid? And what is of more importance, why would they not be a valuable aid to us individually? All of us know that in some lines of technical knowledge we fall far short. In others, we think we are well informed, but we have no way of knowing what grade we could make in a formal test or whether we stand at the head or foot of the class. I believe many men would welcome a chance to find out some of these things for their own satisfaction, and that properly devised and conducted tests would be a great stimulus toward self improvement.

HUMAN ENGINEERING

By A. O. Waha, D-6

The following quotation is from an article in "Trained Men", Spring Issue, 1928, entitled as above, by Chas. M. Schwab, Chairman, Bethlehem Steel Corporation:

> "Our job primarily is to make steel but it is being made under a system which must be justified. If in addition to manufacturing products this system does not enable men to live on an increasingly higher plane, if it does not allow them to fulfill their desires and satisfy their reasonable wants, then it is natural that the system itself should fail.
>
> "What are these reasonable wants of employes, which they have a right to see satisfied as far as conditions of industry permit? I believe they include the payment of fair wages for efficient services; steady uninterrupted employment; safeguarding of their lives and health, good physical working conditions; a voice in the regulation of conditions under which they work; provision for them to lay up savings and, to become partners in the business through stock ownership; finally, some guarantee of financial independence in old age."

An excellent statement this, which could readily be altered slightly to represent the Forest Service platform. The reasonable wants of Government employees are not unlike those of employees in the commercial field. How nearly are these wants being supplied to Forest officers? With the exception that in the nature of things, we can't become partners in the business through stock ownership, and as yet have no guarantee of financial independence in old age (I mean real independence), are we not getting our wants for the most part? In the Government service, provision for employees to lay up savings works automatically by reason of the Retirement Act; if an employee can put by any more, and some do, so much the better. Government employees receive fair living wages, but as a class are not receiving what might be termed fair "saving" wages.

We have the best possible working conditions. I would not, however, say as much about living conditions. I know of no other Government bureau with a field service that furnishes its employees with such inadequate and cheap quarters as the Forest Service. To be sure there are notable exceptions here and there, but we all know how far we are from meeting our standards in this respect, by reason of inadequate improvement funds. Even the steel worker can take a bath without going to the creek or the kitchen, and you can't say that about all Forest officers, —worse luck.

In our efforts, and they are highly commendable, to bolster up fire control, we must necessarily give priority to such improvements that will result in more adequate protection. Each year we make good progress, but in reviewing estimates from Supervisors, one wonders if the day will ever arrive when we shall have enough money in sight to say to a Supervisor that he can go ahead with his plans for improving the living conditions of his force? One simply uses a red pencil now.

I was interested in learning from a friend of mine who is in the employ of Crane Company-Wholesale Plumbing Supplies, what his company is doing for its employees. After a period of 25 years' service, an employee of his class, if he so desires, may be retired and receive $125 per month thereafter as long as he lives. For each year of his service, my friend told me, he had received gratis one share of common stock in the company. He spoke of the fine spirit of their organization, of their Club with its social meetings four times a year, such as theatre parties, picnics, dinners and the like. I could readily see that he was an employee entirely satisfied. Why shouldn't he be?

THE RIGHT HANDLES

By Joseph C. Kircher, Washington.

Jones of New York - Who are you?

Suppose you addressed a letter "Mr. Jones, New York City", do you think that the right Mr. Jones would ever see it? I don't know how many Jones' there are in New York but there must be thousands and your chances of reaching the right one with your letter would be anything but good. In fact the chances would be much better of its reaching a Mr. Jones in the dead letter office, who would destroy it unless you had used at least enough precaution to put your own name and address on the upper left hand corner of the envelope or in the letter.

This Jones case is the extreme, of course, but throughout the Forest Service the same sort of thing is going on in the use of common names for trees. In one day's correspondence from the field the following misuse of names was found, some wrong names appearing several times. It is only fair to say that none of these mistakes was found in reports written by Rangers.

Yellow pine used for western yellow pine.
Balsam used for alpine fir.
White pine used for western white pine.
Spruce used for Engelmann spruce.
Cedar used for western red cedar.

I may have missed a few more, since the misuse of tree names is a common fault throughout the Service, but these are the only ones which I took down.

Take balsam for instance - this name is given locally to six different firs but officially it is used only for the species "abies balsamea". There are nine spruces in the United States, several found within the the same range. Must the reader guess which one the writer means when he merely says "spruce"? Yellow pine is applied locally to six different pines. Cedar covers a multitude of sins of ignorance. There is also Douglas fir masquerading as red spruce and lodge pole pine or western yellow pine as Jack pine especially when the latter occur in dense, young, pole stands and is anyone quite sure what tree is meant by Spanish oak? And so it goes.

Isn't the use of spruce or cedar about the same as though a District Forester should write the Forester that he recommended "Bill" for a promotion. Do you think that the Forester could select the right "Bill"? I rather imagine that "Bills" chance of seeing that increase would be pretty slim unless the Forester happened to be inquisitive enough to ask the District Forester who Bill really was.

Of course, no one would think of addressing merely "Mr. Jones or of writing about "Bill" but this is exactly what is done when one speaks of spruce when Engelmann spruce is meant. It is admitted that the trees on the National Forests are well enough known to be called by their first names, but even then one would hardly use first names in general correspondence.

There is a perfectly good, new, revised and enlarged Check List which gives the correct common names for all the native trees in the United States. The names assigned to the trees in this publication are the only ones which the Forest Service will recognize. Why not use them ourselves - We ask the public to do so.

FROM THE WILD WEST

Just a thought for today:--When Wyman's plus-fours are adopted as a part of the standard uniform, why not add Ranger Riley's rapid draw two-gun belt and make it complete.

J. Templer, Deerlodge.

TARIFF COMMISSION LOOKING FOR A FORESTER

It is understood that the Tariff Commission has an opening for a man in their Lumber Division who has had training in forestry and enough economic training to be able to handle lumber, pulp and paper statistics, and who at the same time has had field experience that would give him a knowledge of timber and, if possible, also pulp and paper. The entrance salary for the position will probably be somewhere between $2400 and $3000.

A CHIP OFF THE OLD BLOCK

By Will C. Barnes, Washington

Just because Frank Rush and his good wife (they were both in the Forest Service for many years) have retired is no sign they have lost their interest in the Service or its traditions. Known all over the State as "Oklahoma's first naturalist", Frank Rush never misses a chance to advance the cause of forestry. Besides this, there's Frank Rush, Junior, who is following in the footsteps of his parents. Born on the Wichita, Frank Jr. is one of its best exhibits and classes along with the buffalo, antelope, and wild turkeys. They all grew up together. Recently the lad conceived the idea of planting a memorial tree to Joyce Kilmer. His parents encouraged him to carry it out. The "Daily Oklahoman" of Oklahoma's capital city on March 9 records the deed as follows:

"Everyone knows Frank Rush, Oklahoma's beloved naturalist who lives at Craterville in the Wichita mountain range. This introduces his son, Frank Rush, Jr., who is headed in the direction that his father has followed.

"A few days ago young Frank was reading a book. Looking up he said:

"'Father, I'd like to plant a tree for this boy. I'd like to plant it at the capital.'

"'This boy' referred to Joyce Kilmer, war poet who gave his life in Flanders.

"'That's a fine idea,' Frank Sr. told his son. 'We'll just do that.'

"Then followed a search for the tree. At last a small evergreen was chosen. Carefully it was dug up with a generous quantity of its native soil clinging to its roots.

"With the tree, Frank Sr. and Frank Jr. drove to Oklahoma City to set it out.

"'We thought that all there would be to it would be just to ask for a place to plant it,' Frank Sr. said Thursday. 'But bless me they ordered out the Boy Scouts and the Governor and everybody.'

"So Wednesday young Frank took a spade and dug a hole for the 'Joyce Kilmer memorial tree' on the sweeping capitol lawn. A troop of Boy Scouts presented the colors. The Governor appeared, tall, bareheaded.

"And now a fresh young evergreen tree from the Wichita mountains grows on the capitol lawn, pressing its mouth against the 'earth's sweet flowing breast,' the tribute of young Frank Rush to a war immortal who knew and loved the trees."

FILMS IN EDUCATION

An editorial in The Washington Post for April 2 says: "Development of educational films along lines which should prove of great benefit to schools and universities is promised by the creation of the University Film Foundation, which will have at its disposal the physical resourses of Harvard for carrying out the project. Except for historical films, the educational possibilities of the motion picture have not been developed up to full strength as yet. The handicap has been the lack of facilities with which to work... The foundation will begin by the production of a series of films in fundamental studies, such as botany, zoology, chemistry, physics, geology, geography, anthropology, and the fine arts... Eventually the foundation plans to work in nearly every field of learning and human pursuit. Among the facilities which will be available will be Harvard's laboratories with all their scientific equipment; the libraries and graduate schools of medicine, public health, architecture, education and business administration; the biological, astronomical and meteorological stations, the Arnold arboretum, the model forest and the botanical gardens in this country and Cuba. The enterprise opens up possibilities of extension work such as no university has ever attempted before... Correlated with regular courses of study the films should provide a ready and practical means of furthering the spread of education."

COST ACCOUNTING AND PLANNING

By R. E. Clark, Rio Grande

Keplinger in his study course "Cost Accounting" not only has repeatedly cracked a particularly hard nut but again and again has laid aside the shell and exposed the kernel with all of its attractiveness and, in many instances, its outstanding defects.

In several of the lessons, Kep has brought out the idea that it might be desirable to break down the system or method to where costs would be tied directly to the individual job. He has suggested that in Grazing we determine how much it costs to count sheep; in Timber Management we would ascertain the cost of scaling, and so on down the line for all major activities. In the discussions, some have just about obliterated the idea with a smoke screen of verbosity while others have agreed to the extent of emphasizing it in bold relief. Personally, I'm very much inclined to agree with the idea of segregating costs to a fine degree and my conclusions are founded largely on the following conditions.

Reference is now made to the Ranger Plan of Work "Loveridge Edition" with which all of us will be concerned sooner or later and mostly sooner. Among its many details, there is one outstanding factor which in my opinion constitutes the "Keystone". It is the "Time Element". In other words, it recognizes but 365 days in a year, and provides for the full use of this time - no more or no less. Yet another detail provides for breaking the work down to the smallest job. For example in Range Management the sub-divisions or jobs include: Counting, Applications, Meetings, Roundup, Plans, Supervision, Plant Development Records, Fish and Game, and Reports. It may even include twice that many if the intensity of the work on an individual Ranger District should justify them. The point now is that the Ranger, when planning his work, has got to estimate the amount of time needed for each one of these jobs. He has got to know reasonably well how much time in the aggregate is needed for the thousand and one recurrent jobs before he can intelligently plan for or take on anything of a more constructive nature - special jobs. His plan, to be successful, must ride an even keel; the time needed to do the work must balance that available.

To make this sort of plan more effective, it naturally follows that we would begin voluntarily to accumulate data which in the long run would give us some reliable figures on the average amount of time it would take to do this and that job on the individual District. Our desire would be to reduce the necessity for "estimates" or wild guesses of time to as low a degree as possible. As time went on, some recurrent jobs would be dropped and others would be added but it is obvious that as long as any plan was effective that involved the "Time Element" in a manner similar to the "Loveridge Edition" we would continue our study of time by individual jobs.

It is likewise obvious that at the end of a three to five year period, more or less, we would be in a position to set up "average time standards" for the numerous individual recurrent jobs. Our first use of such standards, as pointed out above, would be for their very apparent values in assisting us to plan our work intelligently. Their use, however, is twofold. Our analysis of work performed, which today deals almost entirely with the qualitative and quantitative, would take over the additional function of studying "time consumed". If we have gone far enough to know just about how much time it would take to do a job, then certainly we should be interested in finding out how much time it took to do the same job with qualitative and quantitative requirements being equal in both instances. Such a process would be largely a direct comparison between the "average time standard" and the amount of "consumed time". Where marked deviations occurred, there would be cause for a more detailed analysis and the creation and adoption of methods for use in stopping the "leak". Again, it is my opinion that when a study in the use of time is made, we will invariably, perhaps unconsciously, reduce it to the small individual job.

We may drag the utmost depths in our search for and check on "time" in connection with the operation of both planning and accomplishment but in reality are we doing much of anything beyond making a study of "costs"?

Accordingly, in my opinion, just as long as we attempt to plan or to use time effectively, we will find ourselves using the individual job as a basis for such studies. Further, if we accept the above condition that time is synonymous with costs, then we must admit that we can not deal with effective use of time or planning without considering the detailed costs - the cost of the individual job.

It naturally follows then that with the "Loveridge Edition" of Work Plans mandatory we will be compelled to study detailed unit costs, based on the individual job, regardless of whether the Service wide system of Cost Keeping does or does not take care of this requirement.

BECOME A FOREST RANGER FOR $7.75!

By L. I. Barrett, Southern For. Exp. Sta.

During the past winter the attention of the Southern Forest Experiment Station has been drawn to the Norton Institute of Denver by a number of inquiries from local men regarding the possibility of obtaining positions after Norton's Forest Ranger course had been taken. Invariably the men making inquiries had paid their $7.75 for the complete course but after a few lessons had decided to consult the Forest Service on the matter. One of these men, who drives a milk wagon for his living, was kind enough to give us part of his course of lessons.

The series commences with a few words of fatherly advice to the aspiring Ranger, considerable emphasis being placed on the necessity for assiduous study and devotion to duty after obtaining the desired position (at $200 per month with 5-room house, located beside a babbling trout stream). The introduction winds up with a refund agreement by which the price of the course will be returned at the end of two years if during that time the pupil has failed to pass at least two ranger examinations and has shown commendable efforts in pursuing his studies.

The subject-matter of the partial course at hand consists of about 20 pages of mimeographed material interspersed at 2 or 3-page intervals by a page or two of "practical questions" based on the foregoing remarks. Although errors in the course are largely those of omission rather than commission, some very definite misinformation is being ladled out to the unsuspecting subscribers.

For instance, we learn that the National Forest lands are under the Department of the Interior. Watersheds are defined as "ridges forming a dividing line between drainage sides. The trees prevent melting snow and rain from rushing down mountainsides and causing floods." Furthermore, individuals interested in flood control will be glad to know that "aspen and elm are the best trees for holding moisture. Pine and mulberry are the poorest."

The half-page course on surveying begins with the statement that "a knowledge of surveying is desirable, almost essential, for the Ranger. Very limited information is given here. It is recommended that the applicant familiarize himself with the work in this connection.

"Range is the distance east or west of a principal meridian. A township is the distance in tiers or towns, north or south of a given line.

"True north is the same the world over. Magnetic north is a variation depending upon the locality, east or west of the North

Pole. Magnetic north is used in surveying.

"When surveying and exploring some of the country it is necessary to carry packs. About 40-60 pounds makes a very good load for an average size man to carry 15 miles daily."

In a section dealing with timber sales we learn that "D.B.H. means diameter, breadth, and height."

The Nebraska National Forest is given credit for being able to produce large trees in 20-30 years, etc., ad lib.

If the several inquiries received in New Orleans regarding the course are a fair sample of what is happening in the rest of the country the Institute must be doing a very profitable business with this sort of bunkum. The same organization advertises courses for Post Office Clerks, Railway Postal Clerks, Rural Carriers, City Carries, and other Departmental positions. If the Ranger course is a good indication of the value of the others the proper Government organization should in some way be able to put a stop to the fraud.

DESIGNING ROADS FOR A GIVEN SPEED
Part 7

By T. W. Norcross, Washington.

Gradient, or grade as it is commonly called, has a marked influence on the travel speed on a large percentage of the Forest road mileage. In determining its effect an unfortunate feature is that gradient enters into many different combinations with the other elements of standard and such combinations frequently constitute the major control over speed. Another disturbing factor is that the effect of gradient is not the same with different makes of cars and trucks and even with different cars or trucks of the same make.

A grade of less than 5 per cent on a tangent will probably not be the controlling element, since nearly every car or truck in good operating condition can pull such a grade and maintain its speed throughout the length of the grade. A considerable proportion of the cars perform equally well on a 6 per cent gradient and some on even higher.

It is expected then that the first data to be gathered is the effect on speed of gradients of 5 per cent and higher, both on ascents and descents. On the tests, cars and trucks of especially marked ability as hill climbers should not be used. Instead the conclusions should probably be based on average performance. Consideration must be given to such matters as gear ratios. Tangent sections or locations where it is evident that curvature will not be a controlling factor are to be sought. Introduction of poor surface conditions and poor shaping of the road surface will complicate determination of the effect of gradient so effort will be made to select sections where these elements are uniform and of thoroughly satisfactory standard.

Except for costs of operation, grades of less than 5 per cent appear to have little effect on the service rendered by a road. However there are certain combinations of such grades with other elements of standard which must be investigated to determine whether speed is effected and if so, how much.

Design for the ascending portion of a second gear grade apparently offers only minor difficulties ; gradient is usually the major control. A road making possible a speed of 15 miles per hour at all places will apparently answer all practical requirements. In fact controls other than gradient which require reduction to say 12 miles or possibly even less will affect only the service and not detract from safety or ability to pull the grade in second gear. All too frequently it has not been realized that so far as speed on an up grade portion of a second gear section is concerned, no additional service is rendered by width or alignment better than that required for the speed which the gradient makes necessary either because of power or safety. On the descending portions of second-gear grades, the problem of design is more difficult of solution. While the gradient requiring the use of the second gear or traveling in high gear with frequent and rather heavy braking is still the major control, other elements of standard exert a big influence. The problem to be solved is evidently not the effect of various elements or combinations of elements on speed but what is the safe speed for the various gradients. Braking ability evidently will have an important bearing on the solution.

A car of average power and operating performance may pull for a certain distance a 7 per cent and higher gradients without perceptible reduction of speed or without requiring a shift of gears. What are the speeds and the lengths of sustained grades for gradients exceeding 5 per cent or 6 per cent? Again provided the length of sustained gradient is not too long, a car will be able to operate with speed reduction but without shift of gear, provided a certain speed at the beginning of the grade can be secured and also provided the speed at all times does not fall below a certain amount. What are these distances and speeds?

Difficult as the problem is, determination of the effect of gradient on speed promises much that we should have had many years ago for sensible and economical road design but which apparently has not yet been accurately obtained by actual tests on constructed roads.

ANTELOPE ON THE WICHITA

All species of game introduced on the Wichita National Forest and Game Preserve have done well but antelope. A year ago, it was thought that the difficulties in propagating that species had been practically surmounted, but this year the disease commonly known as hemorrhagic septicaemia appeared among them and materially reduced their numbers before it could be arrested, even though prompt action was taken and vaccination made through the excellent cooperation of the veterinary authorities at Ft. Sill, who have shown much interest in the Wichita game project. From something over 30 antelope a year ago, we now have less than half that number. The appearance of this disease among the antelope has raised a question as to whether the buffaloes should be immunized by vaccination. The preliminary judgment of the Bureau of Animal Industry authorities is that, in view of the difficulty in handling the buffaloes, the better plan would be to watch carefully for the appearance of the disease and then resort to vaccination if it should get into their number. From one cause and another the establishment of the antelope herd on the Wichita has had it ups and downs and mostly downs. - District 2.

SCOTT APPOINTED EXTENSION FORESTER FOR COLORADO

Charles A. Scott has just been appointed to the position of Extension Forester for the State of Colorado and has taken up his duties at the Colorado Agricultural College. He is a graduate of the Kansas State Agricultural College, Class of 1901, and also spent one year in the Yale Forest School, with the class of 1906. Mr. Scott was the first Supervisor of the Nebraska Forest and was instrumental in developing the Bessey Nursery and the Halsey planting project. He left the Forest Service in 1907 and since then has been Professor of Forestry at the Kansas State Agricultural College and also State Forester of Kansas. In 1917, he went into the nursery business and developed the Kansas Evergreen Nursery at Manhattan. Later he engaged in nursery work and citrus fruit growing in Florida. Mr. Scott is well qualified by experience and ability to handle this work and Colorado is to be congratulated upon his appointment. He will handle the cooperation with the Government, under the provisions of Section 5 of the Clarke-McNary Law.- District 2.

WATSON - THE NEEDLE!

The German fliers landed at Nova Scotia and are being cared for by the light housekeeper. Our inveterate punster G. G. Anderson drily remarks. "Too bad to have a crowd of three drop in on him when he is only doing light housekeeping."

Service Bulletin

U. S. FOREST SERVICE
(Contents Confidential)

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THE POWER OF SUSTAINED EFFORT

By W. B. Greeley

During the past few weeks I have passed in review a score of years in the Forest Service. With a strange sense of detachment, I have tried to define the main forces behind its driving power. I think that two are outstanding. One is the capacity for sustained effort; and the other is the instinct for public service.

At the Commercial Forestry Conference in Wisconsin recently, President Frank of the State University said that there are no pink pills for pale forests. The cure for forest destruction lies in changing national habits of mind.

For years we have all known the truth of the University President's dictum. There are no magic formulas wherewith to perform wonders overnight in conservation. The process is rather like the growth of the trees we work with - long time-consuming and persistent, from the germination of a seed to the blaze of the ranger's marking axe.

The story of the Forest Service has no lack of striking episodes, some of which have brought momentous consequences in their train. We started off under exceptionally brilliant and forceful leadership. Mr. Pinchot's influence will never cease to be felt. But the real test of the Forest Service has been, and still is, in the long pull - in its capacity for sustained effort. And in this respect our own work symbolizes forestry in the United States.

In a good many things we can already see the tangible results of keeping everlastingly at it. As a young and ardent supervisor, 22 years ago, taking over a "Forest Reserve" from the old administration, I remember how appalled I was when I figured out the roads, trails, telephone lines, and buildings necessary under the standards of 1906 to put that area in shape for real administration and use. The sheer cost in dollars and the time required in years made the problem of improvement seem almost overwhelming. I rub my eyes when I compare the Forest Reserves of those days with the National Forests of the present. No Aladdin's lamp has turned this trick - but persistent unremitting work.

I recall, a few years later, a similar staggering of mind when, this time in Montana and Idaho, I wondered if the Forest Service would ever get beyond the stage of land settlement and classification problems and feel really secure in pushing ahead constructively in forest management. Today the land classification job is over; and its hectic memories belong to the old timers who still keep the enormous badges we used to wear on our vests. I remember when we used to dream of some Utopian epoch when we could trade land or timber and really set about to consolidate government areas into workable units. Today, land exchange is an accepted principle of Forest Service administration, with some 45 acts of Congress behind it. Patient, persistent effort, in season and out of season, has done it.

I remember when we established the first Forest Experiment Station. We did not even dream then of the research organization of 1927 or of the sweeping research legislation now reported favorably in both House and Senate. I remember when Colonel Graves called us in, after the passage of the Weeks law of 1911, and we undertook to launch a brand new policy of cooperation with the States in protection from forest fires with an appropriation of $125,000. I think we had 11 cooperators that year. The policy of course is still far short of attaining its goal, but we have seen State after State join forces until now there are 36 cooperators with 3 more ready to come in, and a protected area of 196 million acres. No pink pills to be sure; but a deal of unflagging work and persistency.

I remember the days when we wondered if Alaska would ever cease to be a battle field, with the Forest Service fighting hard simply to hold its ground, and if we would ever have an opportunity to work out our conceptions of forest conservation along the broad constructive lines adapted to a great and unexploited forest region. It is yet too soon to say that this fight has been won and the way prepared for our real work in Alaska; but we are moving rapidly toward it.

No revolutionary discoveries or magic cures have brought these accomplishments to pass. Persistent work - kept up year after year - has done it. And it has been the work of the whole organization. Able leaders we have had in this field and that, but it is the Service as a team that puts things over. The record of the Forest Service is one of the most striking examples in the annals of the United States of the power of sustained effort by several thousand people, everlastingly plugging away with a common purpose. Hand in hand with this goes the instinct for public service. It is one of the vital things we learned from G.P. I call it "instinct" purposely. It has become more than a policy; it is more deeply rooted than a tradition. It is part of our religion.

How many knotty problems have gradually dissolved before the quiet persistence of the Service in serving the public! How many old centers of hostility or suspicion have imperceptibly changed in the course of years to goodwill and support! How many old opponents have been won over by the plain showing of community or industrial welfare! How often has our public service proven the shield against which the darts of the Phillistines have broken!

The Fall attack was beaten before it was started. He completely underestimated the confidence of the West in the Forest Service. The Federal reorganization plan of 1922 was defeated by public sentiment. The Gregg attack was pitiful. These all came to naught because the Forest Service had won public confidence. And it was won - not by the acts of individuals, not by a few brilliant strokes, not by the flashy, take-all-you-want sort of popular appeal - but by years of painstaking, public-minded work of Rangers and Supervisors all over the country.

Sincere, persistent work always commands respect. If you truly serve the public, the public will serve you. The combination of sustained effort and a sustained spirit of public service is unbeatable.

Much of the best and finest work of the Forest Service is still, and always will be, a quiet building beneath the surface of things, I am thinking of the long, slow job of building up the productivity of the range on thousands of grazing allotments. I am thinking of the persistent efforts in thousands of timber sales to work out and perfect our forestry practice. I am thinking of the constant search for bettering the organization and the use of time and money.

And I am thinking, most of all, of the courage and determination of the field men of the Service in the annual war on forest fires, of the discouragements they have overcome, and of the grit with which they come back to do a better job each year. We have undertaken a task in forest protection which exceeds in size and difficulty what any organization of foresters has attempted in any part of the world. Its mastery has proven more difficult than we thought it would be twenty-three years ago. We are not yet on top of it. We are, least of all, satisfied with what we have done. But we will see it through. We will win through persistence. I put my faith in the power of sustained effort in fire control no less than in the other things which the Forest Service has undertaken.

So the last message which I will write in the pages of the Forest Service Bulletin as Forester is to hold fast your capacity for team work and sustained effort. New leaders will come; new laws will be passed; new and better policies will be developed. But the thing that will always count most is the day-by-day work of the whole organization and the capacity of its thousands of members for seeing long, hard jobs through. Without that, the best of leadership, of laws, or of policies can accomplish but little. That is the real secret of success.

And by all means keep up our sustained effort for bettering the organization from within. The Forest Service has derived a great driving power from its democracy. The strength of its team work is due largely to the wide sharing of responsibility and to the part which all ranks have in shaping policies and methods. Freedom of suggestion and criticism - up the line and down the line - is the leaven that keeps the whole organization up and moving. If it ferments a little now and then that is simply a healthy sign of life.

I can wish nothing better for the continued progress of the Forest Service than to carry right on its internal, democratic power to correct and better itself. This is the real safeguard against dry rot or bureaucracy. As long as the Forest Service is responsive to opinion and criticism, within its ranks and outside its ranks, it will hold public confidence and maintain its effectiveness as a public servant. It will remedy its own mistakes and not invite destructive remedy at other hands.

To keep this spirit of self-improvement within the organization alive and vital is the finest manifestation of sustained effort, and in the long run the most difficult. It will carry the Forest Service successfully through the expanding problems of its future and the larger fields of usefulness and cooperation that lie before it.

You see, I am still using "we" and "our". I always will when speaking or writing of the Forest Service. I have turned in my badges - all but one. That is the large badge I pinned on as a Forest Assistant twenty-three years ago. I defy the forces of the United States from the Comptroller General down to get that badge back.

SAVED HIS DIARIES!!

By V. V. Harpham, Ochoco.

Charlie Congleton, of the Ochoco, resigned on June 15, 1927, after 20 years in the Service. Then on December 17, he and his family had the misfortune to lose their home by fire. They saved nothing from the house, just escaping with what few clothes they had on. Neighbors responded wonderfully with things the family needed at once. They bought a house at Paulina and moved it up to the ranch, and are now settled again. This would be a terrible blow to most of us, but it just seems to spur Charlie on to greater accomplishments. He states that he figured before his loss, 16 hours per day on the ranch would be sufficient, especially after spending so many leisure years in the Forest Service. Now, however, he says he will be obliged to increase it to at least 18 or 20 hours per day, but that it won't take long to overcome the handicap and, no doubt, drop back to normalcy.

Charlie reports a peculiar incident in connection with the burning down of his house. He states that he ran frantically into one of the rooms when everything else was on fire, and reasoned that it would be his last chance to save anything. He observed on a shelf a box which contained his Forest Service diaries during the entire 20 years of his service with the Government. He lunged forward, grabbed the box and made his escape. Thus he saved his diaries but at the same time abandoned a new $120 milk separator and various other articles worth considerable money. Charlie says he has no regrets, however, because if he had been given plenty of time to make a choice that he certainly would have perferred saving these diaries to any other article in the room.

THE SAN FRANCIS DAM

By N. E. Peterson, Angeles.

The San Francis Dam disaster has probably been written up more in the papers than any other catastrophe of like nature in recent years, and the failure of the dam will undoubtedly do much towards a more rigid inspection of dams now under construction regardless of their location. The people will insist on it. When I see the number of engineers examining the site and the remains of the wreck, it would seem that they must be here from all over the United States, and as one man told me, it is well worth the time. It is a fertile field for knowledge but something that I hope will never occur again.

It may be of interest to the readers of the Service Bulletin to get something more definite about the dam, as well as some of the unusual conditions that took place. The dam was constructed on Government land within the Angeles National Forest under permission granted to the City of Los Angeles by a special act of Congress and was completed during the summer of 1926. It was 150 feet thick at the base, 150 feet long and 205 feet high; at the top it was 600 feet long and 16 feet thick with an extension wing 500 feet long. Its approximate cost was $2,000,000. While there has been more or less water in the reservoir since completion, it had not been filled to capacity until a few days before the break. This was the largest of the numerous reservoirs of the City of Los Angeles water system, covering 1100 acres, and its capacity was 38,000 acre feet or 12 billion gallons.

Above the dam is quite a wide valley, below it and extending down the canyon for three miles it is narrow, steep, and rugged, and below that the valley widens out again. Here several ranchers have their homes. A couple of miles farther down the canyon empties into Santa Clara Valley, one of the most fertile and highly cultivated valleys in Southern California. It is here that the greatest damage was done to alfalfa and bean fields, citrus and walnut groves, and the lower lands of towns where most Mexican quarters are located.

From what I can find out the dam went out at 11:58 p. m. on March 12. It still is questionable which wing gave way first, but it would appear that the west wing did, as pieces of concrete 45x65 feet from that side were flooded down the canyon a quarter of a mile, while some exceptionally large pieces of the material on the other side had fallen up stream above the foundation, and some below. About 50 feet of the central portion is still in place and intact. The two openings made it possible according to the gauge to drain the reservoir in 42 minutes. The story of persons residing two miles below the dam, who were rescued, is that first there was a wave of ten feet, followed within a minute or so by one 50 feet high that lasted 15 minutes, after which the water dropped very quickly. As the water hit the valley it spread out so that it was probably not over 20 feet deep as it made its way to the ocean. In checking up on the speed of the water it was found that the first ten miles was made in about 30 minutes.

It was a desolate looking country that Supervisor Cecil, his ranger force, and the hundreds of people that had gathered to help with the rescue work, saw at daylight. As we made our way over the stricken area picking up bodies here and there and saw railroads, bridges, power and telephone lines, gas and oil lines wrecked and swept away, field and orchards that the evening before had been green and blooming covered with debris and several feet of silt, we fully realized the extent of the disaster and that it would go down in history as the worst catastrophe that California has experienced.

A short distance below the reservoir the City of Los Angeles had a large power plant and several fine homes for the employees, which, including their families, numbered about 40. Only one woman and her small child escaped, her husband having pushed her and the child out of the house and told her "to beat it up the hill" and he would go in the other room and get the older girl; but the water came so swiftly that those couple of seconds cost his life.

The Southern California Edison Company had a 150 man camp near the river bottom, about 15 miles below the dam. As the men were all quartered in tents more than two thirds were drowned, the water, silt, and debris flattening the tents and making it impossible for them to get out. I was told by one man, how the four in his tent were saved after they jumped out of bed; the water seemed to lift them right up on the crest, the tent forming a sort of air balloon; hanging on to the sides, they were sucked out into an eddy, whirled around a few times and then shot up against a bank some distance below the camp. Here one of the men managed to grab the root of a tree and kept them from being drawn out into the main current just a short ways below. He said the tent was new, and he was unable to tear it. He finally chewed a hole through it in order to get air.

At one of the service stations that has night service two boys climbed a large tree and called to the people to run for the hills as the water was coming. One of the boys was knocked out of the tree by a floating pole and drowned and all but three of the 25 people that were camped there perished.

A farmer below the dam had passed by it the day before the break, and that evening he, his hired man and wife slept in the barn and left the door open. He told me that he had a feeling the dam would break, but even at that if it had not been for the dog letting out peculiar barks they would have been lost, as the water came so swift that it caught them before they got on the higher ground, but they managed to get there.

In another instance a 9 year old girl was saved by hanging on to the wire of a bale of hay which was deposited in an alfalfa field. She said that when she woke up she was floating on the mattress, then flung over on a side of the barn, from where she saw her father's mules floating by, then she was ducked under and when she came up it was by the bale of hay.

One of the men working at the power plant, but living at Newhall told me that he was so sure that the dam was going to break, that he returned to the power plant that Monday night to warn his brother and family to get out of the canyon, the brother said he would tomorrow. But that was too late, the whole family of seven perished.

There were two schools in San Francisquito Canyon proper. The teachers and all but one child perished.

I have often heard said that the Indians have a premonition when something disastrous is going to happen and that they get away in time. This seems to be true, as there were about 20 of them camped at the Harry Carey Trading Post, and they had been there for more than a year. On Sunday they got all their stuff packed up and early Monday morning left for Nevada. Had they stayed not a one of them would have been saved.

San Francisquito was one of the many recreational canyons of this Forest and while it was not so attractive as some more heavily timbered, the fact that it had a fine stream induced many campers and picnickers to go there. There were also nine leased cabin sites that were improved with substantial cabins. That canyon is now a barren waste and it will take at least 50 years to bring it back to where it was before the flood.

AN IDEA

By M. L. Merritt, D. 8.

My mail this morning contains a request to join a lodge mutual insurance club, each member of which makes an initial payment of $2.00. When a member of the group dies the treasurer is authorized to pay his beneficiary $1.00 for each member and to make a $1.00 assessment to replenish the treasury. I have belonged to a similar organization for a number of years and have found it to be one of the cheapest kinds of insurance available.

What about forming a Forest Service widows' and orphans' club? For instance, let each member make a $2.00 initial payment When a member dies, pay his or her beneficiary $1.00 for each member of the club. For the present no maximum benefit need be stated, although the organization to which I belong has a maximum of $1,000, there being more than 2,000 members. If an organization were formed I suggest making assessments of $1.10 each, thus providing a small fund for postage and supplies on the understanding that as a surplus develops an assessment would be passed. I suggest paying no salaries and admitting any yearlong employee in good health and permitting him to continue after retirement but not after resignation. Apparently there are enough Forest Service employees to keep up a large membership. They are a healthy lot, very seldom die so there should be very few assessments. On the other hand many Forest Service employees do not become rich in this world's goods and sometimes the ones left behind would be greatly benefited by a few hundred dollars. The money could be paid immediately on notice of death without red tape or delays and would be available at a time when most needed.

Perhaps the Fiscal Agents' offices would volunteer to do the secretary-treasurer work, each District Fiscal Agent, for instance, handling collections and records for his District and centering these at Washington. What do you say? If this idea meets with approval I suggest that the Forester appoint a committee to draft the by-laws. Incidentally, I believe that women, as well as men, should be admitted to membership and that the organization should not be combined with the Government Mutual Relief Association, which takes in people from other Government Departments also.

(Note: The Immediate Relief Association of the Department of Agriculture, which is organized on a basis similar to that suggested by Mr. Merritt, pays the beneficiary $250 immediately upon notification of the death of a member, but its membership is limited to employees stationed in Washington. Several attempts have been made to have its benefits extended to field employees but this has been considered impracticable, mainly on account of the large number of employees in the field and the difficulties anticipated in attempting to extend immediate financial benefits at long range. H. I.)

A NEW TURN IN COOPERATION

The meeting on March 14 of the regional Forest Protection Board for Arizona and New Mexico applied the first local test to a new idea. At the instance of the Coordinator, a national Forest Protection Board was created last year with Colonel Greeley as Chairman, and the creation of regional boards was the second step. The new idea or new application of an old idea is that of extending comprehensive inter-bureau cooperation - heretofore largely limited to routine matters - to actual land control problems of mutual concern. The meeting held at Albuquerque, was attended by M. R. Tillotson, National Park Service, Chairman; Frank C. W. Pooler, Forest Service, Secretary; John T. Murphy, General Land Office; R. Q. Grant, Weather Bureau; Leonard B. Radtke, Bureau of Indian Affairs, A. E. Gray, Biological Survey, and W. H. Long, Bureau of Plant Industry. Mr. Miller of the Bureau of Entomology was unavoidably absent. High lights of the meeting were: a thorough discussion and better understanding of fire cooperation: a definitely expressed desire of other bureaus to have some of their men take advantage of Forest Service training facilities, leading to probable attendance at the annual Fort Valley school as well as local fire camps; and a move toward more concerted and effective action in insect and rodent control. In the discussion of Weather Bureau cooperation, it was pointed out that daily radio forecasts could not only be made helpful to Government employees with radio sets, but would also, with special attention called to fire weather, have an important public relations aspect. The interest displayed at the initial meeting of the Board was so striking that its success as a correlating agency seems assured. - District 3.

THE TEN COMMANDMENTS OF SUCCESS

1. Work hard. Hard work is the best investment a man can make.
2. Study hard. Knowledge enables a man to work more intelligently and effectively.
3. Have initiative. Ruts often deepen into graves.
4. Love your work. Then you will find pleasure in mastering it.
5. Be exact. Slipshod methods bring slipshod results.
6. Have the spirit of conquest. Thus you can successfully battle and overcome difficulties.
7. Cultivate personality. Personality is to a man what perfume is to the flower.

8. Help and share with others. The real test of business greatness lies in giving opportunity to others.

9. Be democratic. Unless you feel right towards your fellowmen, you can never be a successful leader of men.

10. In all things do your best. The man who has done his best has done everything. The man who has done less than his best has done nothing. - Charles M. Schwab.

Clipped from D. 4 Bulletin.

MAP SHOULD ACCOMPANY REQUEST:

The Secretary of the U. S. Geographic Board asks the Forester to furnish a map hereafter, with each request for names to be applied to natural features within the forests. The map should show the exact location of the place named, marked so it can be easily located. This need not necessarily be a full sized map. A small sketch map covering the area about the place will be sufficient. - W.C.B.

HATS OFF TO THE MOVIE MAN!

By J. G. Peters, Washington

At the spring meeting of the National Fire Waste Council recently held at the U. S. Chamber of Commerce two motion picture films of the U. S. Department of Agriculture were exhibited -- "The Forest and Health" and "The Green Barrier," the one prepared by the Forest Service and the other by the Bureau of Plant Industry in cooperation with the Forest Service. It was announced that these films with one other were selected from an assortment of thirty-two recently shown by the Visual Educational Committee of the National Fire Protection Association at a small gathering in New York of prominent educators and psychologists. The verdict was that outside of the three films selected the psychology was poor. The instinct to use fire is strong; witness the fire worshipers of old and the ever-present desire of the child to play with matches. The way to combat an instinct for bad is with an instinct for good. This is precisely the method employed by the two Department films, which by the way represented the Department's contribution to the exhibit. The feeling was that pictures of fire alone and statistics fail to get the most effective results. The Council's comment following the exhibition of these two films was decidedly favorable, and special comment was made on the singular absence of the warning "Thou shalt not" which fills a great deal of the fire prevention literature and often decreases its effectiveness to the doubtful point.

"The Forest and Health" is the idea of Harry Kylie, and is a mighty effective picture.

DESIGNING ROADS FOR A GIVEN SPEED

Part 8

By T. W. Norcross, Washington

The condition of the road surface, has a most important effect on speeds. This is generally recognized. But just how great is this influence is not so well understood. Watching the speedometer over a road where all elements of standard except surface are constant will make evident that while a speed of say 35 miles per hour or even more can be easily and safely maintained, slight and hardly perceptible disturbances of the road surface will bring the speed down to say 30 miles an hour, shallow ruts will take off a few more miles, deep ruts and occasional holes several more and so on until deep holes, bad cross drains, etc., will require shift of gear. Reduction of a running speed of 30 to 40 miles per hour are very frequent and the road surface causing such reduction would not be classified as poor. Water, ice or snow on or in the road is as important as irregularities and unevenness on a dry road; frequently the retarding influence is greater.

Studies of the effect of surface condition on speed have already resulted in a conclusion that under certain conditions the desired speed can be secured at less expense by proper shaping of the road, adequate drainage and keeping the surface in good condition than by constructing a new road of a higher standard of alignment, gradient and width. To obtain the right shaping may require a rather extensive working over but thereafter the road will keep its shape better than formerly, thereby reducing maintenance costs. Culverts and other drainage structures cost a large amount in the aggregate but it is cheaper to provide them than to pay the bill for maintenance and repairs than would otherwise be necessary. Keeping the surface in good condition may mean better maintenance, or more frequent dragging or blading the surface or both. At times the use of rock or some other foreign material may be the right solution; surfacing of the entire road will frequently be unnecessary; surfacing of curves, soft sections and similar places may be all that is required.

Possibly the greatest difficulty in determining the effect of surface condition on speed lies in description of the condition that resulted in a certain speed. "Fairly rough" or "badly rutted" and other similar terms have different meanings in the minds of different men. Measuring by the mile, the number of bumps, inches or feet of depression or some similar mathematical quantity would seem decidedly more descriptive. But even the thought of actually measuring the number and size of bumps per mile of road sounds fantastical.

Actual measurement of the roughness or uneveness of the road surface is now being carried on in certain research work. The "roughometer" is only one of several devices that are used. So far as now known test is being made only on hard surfaced roads. This instrument is said to be one of the simplest of the apparatus now in use and to be rather inexpensive. Very possibly purchase of one for investigative purposes might be justified and approved. But it is now not seen wherein it is necessary that we know exactly the "roughness" of a tested road expressed in mathematical terms.

Difficult as it may be to determine the effect of hardness or smoothness of the surface on speed, the problem is not causing any anxiety. Prior attention to other elements is proposed. When consideration of the surfacing element can be given, a method will be found.

PUBLIC SPIRITED SOUL

Lecturer (in loud voice): "I venture to assert that there isn't a man in this audience who has ever done anything to prevent the destruction of the vast forests."

Man in Audience (timidly): "Ive shot woodpeckers."--The Imperial Life Guard.

Service Bulletin

U.S. FOREST SERVICE

(Contents Confidential)

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BY WAY OF INTRODUCTION

By R. Y. Stuart.

Those of you who have played on a team with a long string of victories to its credit know the feeling when it loses a star captain. It is with about the same feeling that all of us regard Colonel Greeley's leaving the Service on May 1. Yet, as with the members of the athletic team, we know that the games must go on and we proceed to make plans for the coming season.

Some of you may know what it feels like to be tapped on the shoulder and told that you are the newly elected captain of the team. No matter how many seasons you had played or the number of positions played you knew there was before you the test of team leadership. You undoubtedly sobered up a bit, wondered what your team mates thought about it, took another hitch in your belt, and agreed to serve. Those are my feelings in accepting the leadership of the Service.

You will go far to find an organization with as much team spirit and as much to show for it as the Service. From Forester down through the ranks the Service tradition has been solidarity of interest in Service work, willingness to play one's part to the limit of his ability, and a high conception of duty in public service. We have had team spirit with high purpose.

I shall count strongly on that Service team spirit, backed by the proven ability of our personnel and public confidence in it, in shaping our plans to meet the enlarging and broadening field of Service activities. Recognizing the essential part the States, the forest land owners, the profession of forestry, and citizens generally must play in meeting forest problems and the constructive work already done by them, we will reach out for more and better ways in which to help them and to bring their aid to us.

The effectiveness of team work has been demonstrated in National Forest administration. Team work can be made equally effective in bringing about the upbuilding and better management of our forests generally. By closer cooperation among those constructive forces devoted to more and better forests, I see forestry not only more widely understood and practiced throughout the country but increasingly realized on the National Forests.

From all of which you may judge that I am strong for cooperation, individually and collectively, which is correct.

FORESTRY FAIR AT WAYCROSS

Second Annual Event Takes Place September 19-22

Waycross, Ga., Feb. 27.--September 19-22 has been fixed as the date for the second annual Forestry Fair in Waycross.

To this fair will be invited all of the timber owners in Georgia, South Carolina, Florida, Alabama, and other states in the pine belt.

The fair will open at the Waycross Tobacco Warehouse with addresses by prominent timber owners and representatives of the various state forestry departments.

Thursday there will be a field demonstration of the methods of protecting pine forests. The various manufacturers will demonstrate all of the machinery used and recommended in forest conservation.

Friday there will be a field demonstration of the various ways of preparing the pine trees for marketing. This will show the latest machinery and implements used in sawmilling, turpentining and in allied timber industries.

Saturday the fair will be brought to a close by a business session and reports on what has been accomplished.

On all four days there will be open to the public in the Waycross Tobacco Warehouse exhibits showing the wrong and the correct method of turpentining trees, samples of trees protected by conservation and of the unprotected trees, and of the various products of the pine trees. The manufacturers will be assigned booths for the display of machinery and implements used by the timber owners and the allied timber industries.

The arrangements for the exhibits and for the field demonstrations will be in charge of a committee composed of R. I. Brinson, Waycross, chairman; A. K. Sessoms, Cogdell; I. F. Eldredge, Fargo; R. E. Benedict, Brunswick; J. S. Elkins of Waycross; and B. M. Lufburrow, C. W. Nuite and F. B. Merrill of the State Department of Forestry.

The publicity arrangements will be in charge of H. A. Stallins and Osa Davis of Waycross.

The general fair committee which has supervision of all arrangements is composed of J. H. King, chairman; J. T. Gillis, K. S. Varn, J. W. Bunn, J. L. Crawley, and R. I. Brinson.

(This "Colyum" has advocated permanent Forestry buildings at fairs. This is carrying the light still further and making it brighter.)

"PLUS-FOURS

"By Francis E. Williamson, Jr., Mt. Hood.

Vote X, after "Plus - Fours" - NO.

Being more or less barred from this discussion by Mr. Morrell's suggestion that we hear from a few old timers, I will lay my badge aside for to-night and pretend that I am back in the "Old School". By "Old School", I mean the organization that is responsible for blessing this world with breeches - The United States Army.

Wyman says that he has worn all sorts of field clothes, from bloomers to long trousers; well I must admit that I have worn all sorts of uniforms from Kilts to "Full Dress Blues", but can't say that I enjoyed any of them more than the practical uniform consisting of breeches and roll-collar coat.

Wyman also goes on with an essay on the merits of the various uniforms. Why go into all this? Look to the past experience of that hard working, muck-digging, jack-of-all-trades - the infantry soldier, who has tried all types of clothing that are supposed to resist wear, look snappy and be practical for either office or field. We find that not only our army, but armies of most civilized nations wear breeches. Why? Because, men who are best qualified to judge clothing meant for all around service have pronounced breeches as the best.

I am not averse to trying anything "for the good of the Service", but like Mr. Morrell, I believe that an actual vote or tryout by some of the dignitaries of our Service would decidedly leave the "Plus - Fours" as the mark and wearing apparel of the golfer and dude ranch frequenter.

HOW TO TEST AN EXPERT

By P. Keplinger, D-2.

In the introduction to his book on "Applied Budgeting", Arthur Lazarus makes the following statement: "The danger that confronts the budget in business is that technicians will seize upon it and, by enshrouding it in mystery, discourage practical business men from testing its merits". Mr. Lazarus as Chief of the Cost Accounting Bureau, U. S. Chamber of Commerce, and later as Consultant, Service Bureau, Metropolitan Life, has had much experience with "technicians" of various kinds and probably has good reason for his apprehension of danger. In my recent study of cost accounting I found everywhere the same thing; the technicians, or specialists, instead of helping to make it practical have so complicated procedure and so overburdened the literature with useless technical phraseology that they have come near wrecking the whole cost accounting idea.

Emerson in his chapter on "Competent Counsel" says that one of the duties of an executive is to see to it that the "specialists do not cause more trouble than they cure".

How does this seemingly wide-spread reputation of the specialist tie in with your own contacts with him? Haven't you had him, when you have asked him about his work, smile in a superior manner and reply with a few mystifying generalities as much as to say, "Poor fellow, you can't ever understand this complicated specialty of mine"? I have, a lot of times. In fact I'm learning to expect it.

While I don't want to bring this discussion so close to home that it becomes personal, I know very well you can remember examples like this: Not so long ago a specialist was advocating that we should have a specialist in his line on every Forest. The Chief of Operation, who knew something of the retrenchments that must be made in other lines to provide for this new expense, wanted to know what these specialists would do; not generalized theories but actual day to day jobs. Did he get it? You know the answer. He got the usual high-sounding generalities, couched in the usual technical jargon. You have had it yourself, perhaps many times and from many angles, from both inside and outside the Service.

Now how did the expert get this universal, unfavorable reputation? And if they are a real danger to progress in other lines, as they are in the application of the budget idea, why do we have them at all? Why do business men still employ them? After nearly fifty years of contact with them in one form or another, I have come to the following conclusion: There is occasionally a real honest-to-goodness expert who is as different from the usual variety as a genuine diamond is from the Woolworth imitation. The real article, instead of mystifying, simplifies. A principle may have required years of intensified study in its development, but once developed it is simple and understandable. The true expert can see the simplicity of it and knows how to strip it of the haze of technical phraseology and state it in simple understandable language.

True principles or real scientific facts are always more simple than the wrong assumptions that preceded them. Test this statement by applying it to facts in any line. Take the shape of the earth, for example; try to think a flat earth and all that it involves. You cannot. So with other things.

Do you remember J. T. Jardine; how simple and understandable he could make everything after he had worked it out? One of the greatest sheep experts I have ever met is a Mexican ranger who helped him with some of his experiments. You may probably know others like Jardine, altho not many. They are not common. But it is these few outstanding individuals who have really thought through, understand their specialty, and have reduced it to simple terms that keep up the demand for technicians. They are indispensible to progress. But in their wake follow the mystifying imitation that has nothing but words.

This then gives us a real yet easily applicable test for the expert: Ask him questions; if he is mysterious, indefinite, talks in generalities, or implies that he has something which you cannot understand, put him down as a fake, an imitation. But if he is interested in your questions, gets right down to everyday jobs, shows you the application in simple, common sense language, becomes interested himself and arouses your interest, then you may depend upon it you have met the real article. Try this out next field season on every specialist who comes your way.

FIRE PREVENTION

Education is cheaper and more effective than the fire engine in preventing forest-fire loss, and future emphasis in the United States, it is believed by Harris A. Reynolds, Secretary of the Massachusetts Forestry Association, probably will be placed upon prevention rather than suppression.

His conclusions are based on the three-year Cape Cod Fire Prevention Experiment, still in operation, and which is the first systematic attempt in the United States to determine the money value of education in preventing forest fires.

In conducting this experiment an area was selected on the Cape, covered with 110,000 acres of inflammable forest growth, the fire hazard of which was estimated to be as high as that of any woodland east of the Rocky Mountains.

"And yet", said Mr. Reynolds in the Christian Science Monitor, "if next year should prove no worse than the past in costs and losses, the final figures should show that, for 20 per cent less money than was spent under the old system for suppression alone, fire losses will have been reduced by about 80 per cent."

In briefly describing the experiment, Mr. Reynolds said: "A glance at almost any suitable compilation of statistics will show that fully 99 per cent of all forest fires are caused by human carelessness in some form. Grant then for the moment that the problem is basically one of education.

"The most extensive effort in this line at present is the American Forest Week, when thousands of dollars are spent for publicity for stopping forest fires. No one questions the desirability of such work, but in actual results we do not know whether the money spent is worth 10, 50 or 100 cents on the dollar.

"In the Cape experiment, however, we were able to give an educational program consisting of motion pictures to all schools and other organized groups, and to use newspaper articles, pamphlets and posters freely, so that at the end of three months every man, woman and child knew about the experiment and the reason for conducting it. Added to this two uniformed patrolmen were given trucks and ordered to cruise through the woods, interviewing whoever they saw, and warning them against starting fires.

"The result was that despite an unusual number of tourists, an extremely dry season ,a larger number of small fires and other handicaps during the first year of the experiment, the average results of the first two years shows an enormous gain over the old system. We believe that we are now on the road to showing the legislators, as well as the general public that it is more efficient to spend money in the prevention of fires, than for suppression after they are started."

HOW A GOLD-RUSH STARTS.

By J. C. Sharff - Malheur

Along about 1917 or 1918, a little Irishman directly from the Old Country engaged in the sheep business near Nyssa, Oregon. Luck wasn't at all with him, and by the fall of 1919 he was in debt $21 per head on a band of six-year old ewes. What happened from 1919 to 1925 you don't hear much about, but during the fall of 1925 he unloaded his old ewes and purchased a band of 1,200 yearling half-blood Cotswold-Rambouilet ewes for $13 per head. He ran 12 bucks with this band and shipped 132% of lambs the following year. Last year, 1927, he shipped 152% or a total of 124.9 lbs. of lamb from every ewe besides a twelve-pound fleece. He sold 1,191 of the original 1,200 ewes for

$14.50 per head about the first of September, threw his pack outfits under a tree, headed his horses for the sage brush and took the next boat for Ireland, with $49,300 to the good!

TO WHOM IS CREDIT DUE?

By C. E. Rachford, Washington

To one interested in fish propagation and transplanting, "rearing ponds" mean much. This is due to knowledge acquired in an attempt to keep mountain streams fully stocked to meet the demands of an ever-increasing number of anglers. It is not until one has noted the mortality of fry when turned loose by the old method as compared with the loss under the new rearing pond method that the possibilities of the latter are fully realized. These possibilities are further emphasized when one observes the many little ponds in the National Forests with their millions of little healthy, strong fish ready for transplanting. But the question has recently been asked by one of the Districts: "What is the origin of the retaining pond method of fish culture?" In response to this question the Bureau of Fisheries has the following to say:

"I must confess complete inability to trace the source of this development or determine to whom credit for its inception should be due. Of course, the first hatcheries installed some ponds for rearing their trout fry to fingerling size before distribution, and as the belief that fingerlings were of greater value for stocking than fry became established the Government and many of the states expanded their facilities as far as possible to meet this new condition. However, the installation of retaining ponds away from the hatcheries in the vicinity of the waters which were to be stocked is a comparatively recent development.

"While such establishments existed in limited numbers in various parts of the country the rearing pool plan received its greatest impetus among the sportsmen following the publication of an article by Secretary Hoover in the magazine "Outdoor America" in 1925. Since then increased numbers of sportsmen's organizations have taken up the plan and many of the states are developing it intensively. It is perfectly hopeless to attempt to give any chronological sequence to a movement of such a spontaneous character and an attempt to credit it to any particular source could only be based on guess work. We can merely be thankful that it has become so wide spread and well established."

While it is pretty certain as to who is applying the plan most effectively, it would be interesting to know who started it. Will C. Barnes reports its use on his ranch in New Mexico in 1902. Come on with your dates and facts.

NOW YOU TELL ONE!

We hear some great stories about corn in Iowa, mules in Kansas and spuds in Idaho, but listen to this one about livestock in Utah. It was told to "Ye Editor" by one of the force whose stories are popular, yet whose veracity is unquestioned:

He states that a few years ago when wool and lamb prices hit the ceiling, he owned 3 ewes and one milk cow. The wool from the three sheep brought him 72¢ per pound and gave a total of approximately $33.00 for the "herd". One morning he went out to the yard and found that each ewe had twin lambs and the old cow had twin calves, all born during the same night. He was successful in raising all of the young animals and sold the lambs that fall for $11.00 per head. This gave him a total income of $99.00 for the three sheep for the year. The two steer calves also grew and flourished and when they reached maturity were sold and weighed approximately 1300 pounds each, but did not bring prices quite equal to the sheep. However, the cow did her level best to make up for the low price of beef by producing twin calves again the following year.- D-4 News Letter.

NEW NAMES FOR OLD

By Francis E. Williamson, Jr., Mt. Hood.

For the most part the writer agrees with the suggested titles, in Mr. Peck's article in March 26 issue. In fact thinks those from Junior Forester to Chief Forester are well worth adopting but believes that a great mistake would be made in changing the title of Forest Ranger to that of Forester. The Forest Ranger is the back-bone of our Service; to the public, Forest Ranger means the Forest Service. Let us stick by one of our traditions - we have let the Marine Corps and taxi-drivers "buffalo" us out of our forest green; we have even painted our trucks to resemble those of the army, but let us stay with the title of Forest Ranger. If the public can not remember who the Forest Rangers are, then let us, in occasional news articles call them United States Forest Rangers.

A BIG SPRUCE

This is not an effort to attract attention, realizing that during a presidential year more momentous things agitate the public mind than the biggest Engelmann Spruce in the Rocky Mountain region, declares the Lincoln Bulletin. The majestic Engelmann Spruce in question was cut on the 9/9/26 sale to the Southwest Lumber Company and measured 162 inches in circumference at a point five feet above the ground, 52 inches in diameter at the same point, 138 feet in height and cut 8, 16' logs. The net scale compares favorably with the cutting budget on some forests, eh, what? - D. 3 Bulletin.

DANNIE FISK RESIGNS

By C.W.Waterbury and
Ira E. Jones, Whitman.

After 21 years in the Service, Forest Ranger Dannie W. Fisk resigned on May 1 to take charge of personal business interests at Prairie City, Oregon, where he will thereafter meet old friends at his modern filling station and garage. In connection with this enterprise he plans to develop a modern tourist camp in the near future.

Mr. Fisk entered the Forest Service as a Guard on May 1, 1907, and was assigned to the Austin District, where he has been continuously employed. On November 15 of the same year, he was appointed an Assistant Forest Ranger. On January 1, 1908, he was promoted to Deputy Forest Ranger and on January 1, 1910, to Forest Ranger.

In point of years of service, Ranger Fisk is the oldest member of the Whitman Forest organization. At the time he was assigned to his District, there were no Forest Service telephone lines, roads, trails, pasture fences or buildings of any kind. He has been instrumental in the development of this district to the extent that it now has more than 80 miles of telephone lines, 50 miles of roads, 122 miles of trails, 3 standard primary lookout houses, 4 dwellings at Ranger Stations and 6 horse pastures for summer use.

On account of the large amount of timber sales business in the Middle Fork of the John Day, Ranger Fisk's District probably has been visited by more Forest officers at large than any other in District 6. Washington inspectors and District Officers know it well.

Statistics show that an average of one-third of all the fires on the Whitman Forest occur on this district. The increased hazard is brought about by extensive lumbering operations, the Sumpter Valley Railroad and the Middle Fork lightning zone. During Mr. Fisk's long period of service, he has successfully handled hundreds of fires and is rated as one of the best fire fighters in eastern Oregon.

With the resignation from the Service of Ranger Fisk we also lost the valuable services of Mrs. Fisk who had been telephone operator at Austin for the past 12 years. Mrs. Fisk is to be commended for the untiring services rendered both day and night during periods of emergency.

Although on May 1, Mrs. and Mr. Fisk severed their connections with the Forest Service officially, their home will be so near the Forest that we hope they will continue to consider themselves as part of the Forest Service family. Incidentally, as one of the future leading citizens of Prairie City, Dan is going to be a mighty big help to the Forest Service (and the Malheur Forest) in selling fire prevention and forestry, not only to the people in his community, but also to the thousands of tourists and others who will stop at his place of business to fill up on gas, oil and information before they start over the mountain to Dan's old "stamping grounds" in the Austin Ranger District.

IN DAYS OF OLD

The following lines on the care of forests are taken from the "Christian's, Scholar's and Farmer's Magazine," published by Shepard Kollock of Elizabeth, N. J. in 1789: "I need not mention the importance of wood, for timber and fuel, to farmers. It may, however, be of consequence to suggest an expedient by which farms, deprived or nearly so of wood, may be replenished with timber. Most easy is the cultivation of trees. Let a farmer devote a piece of ground for this purpose, that is natural to wood (and, of all his land, the most useless, on account of its roughness, or any other circumstances) and prepare the soil as if for the reception of grain. In the fall of the year, let him at proper distances, plant black walnuts, hickorynuts, chestnuts or acorns. In a few years, if cattle shall not be suffered to graze on the land, it will be covered with thrifty wood, and greatly enriched by the leaves which shall fall from the trees."-Pa. Dept. Forests & Waters.

FEEDING IODINE TO SHEEP

Research often succeeds in devious ways in disclosing results far removed from its original intention and object. At the time when an American chemist was engaged in isolating from the glands of sheep that organic compound called thyroxin, a constituent of the thyroid gland, he found that different sheep possessed varying amounts. Also those sheep that possessed large quantities of thyroxin in the thyroid gland were heavy wool growers; the others were scrawny and no good for wool. The answer then was immediate. Physiologists have known for years that the thyroid gland regulates bodily and mental processes, metabolic rates, rates of chemical combination and productivity in the body, and how these could be stimulated. So the result of this research was that the sheep in Montana were fed iodine. Increased activity of the thyroid gland resulted and they became valuable wool growers.

In direct relation to this is the necessity for its use in the human diet as a preventative of goiter. It is conservatively estimated that as high as 50 per cent of the school population in the northern half of the United States have incipient goiter, resulting from an abnormal condition of the thyroid gland. In regions of iodine deficiency artificial methods of supply must be provided; by iodization of public water supplies as is done in Rochester, New York, and Minneapolis; the use of iodized table salt as is enforced by law in the State of Michigan; the use of tablets or flour prepared from the iodine-rich extract of marine algae; and the inclusion in the diet of seafoods such as oysters and bluefish which contain appreciable amounts of iodine. - Industrial Bulletin, April 1928.

BUT WHERE?

Each day sufficient rain falls upon the earth to fill a reservoir 400 miles square to a depth of 10 feet. It descends at the rate of 16,000,000 tons a second.

YOU CAN'T FOOL 'EM

"It is easy to fool yourself. It is more difficult to fool the people you work for. It is still more difficult to fool the people you work with and it is almost impossible to fool the people who work under your direction." - Eastern District Digest.

TO MY FELLOW MEMBERS OF THE FOREST SERVICE:

When I put in the pages of the Bulletin recently what I said would be my last communication as Forester, I did not anticipate the exceedingly beautiful parting gift which Mrs. Greeley and I were to receive from our Service associates and friends. I can not let that debt of gratitude pass without further recognition.

As I tried to say in the bewildered moments after Herbert Smith had presented the silver set to us at the Forest Service gathering last Tuesday evening, we are carrying away so many ties of long-standing friendships and associations that nothing further was needed to cement these bonds or keep our memories of the years in the Forest Service an unfailing source of pleasure and affection. Your generosity and friendship have added another tie. We appreciate it very keenly and thank you with all our hearts for this prized and beautiful souvenir from the Service.

One of the most beautiful and deeply prized features of the set is the Forest Service shield engraven on every piece. That is just the emblem and symbol which we are most happy to carry with us in our new surroundings. As I told the Service friends in Washington, I hope that we may have many occasions, on some porch overlooking Puget Sound, to brew a cup of tea from these beautiful utensils for some member of the Forest Service, old or new, who has dropped in. The latch-string will be out to all of you.

And now I am told of the chess table which is on its way from the Forest Products Laboratory. You Service people certainly know all of my weaknesses. There could be no more beautiful reminder of Forest Service friendships, American woods, and Laboratory workmanship - all combined. This table, too, will stand waiting for the old Service friends who can drop in and push the pieces awhile in memory of old times. I thank you all most heartily.

Very gratefully yours,

W. B. GREELEY

Service Bulletin

U.S. FOREST SERVICE

(Contents Confidential)

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NEW CHIEF OUTLINES POLICIES

The following is the substance of a press release issued on Major Stuart's assumption of his new responsibilities as Forester:

The policies that have governed the Forest Service under its outgoing chief, Colonel William B. Greeley, will be continued without any radical innovations or departures.

Our administrative and educational policies and procedure are the product of many years of experience, and have become pretty well stabilized. They are the outcome of the constructive minds of my predecessors, Pinchot, Graves, and Greeley, and of the teamwork of the Forest Service organization itself. I shall continue the tradition that is handed down to me from my predecessors and shall strive to keep on in the course already marked out.

From its inception, the Forest Service has concentrated on the task of having the forest lands of this country made productive and kept continuously so. To it was assigned, in 1905, the administration, protection, and improvement of the National Forests, now aggregating 159,000,000 acres. Its field was later broadened to include cooperation with the States, with public organizations, with industries, and with individuals to better protect and utilize our forest resources, and to derive from them the maximum benefits in watershed protection, in public health, and in public recreation.

The record of the Forest Service is an open book. Its policies, severely tested, have proven sound; its personnel has won public confidence. Successive Congresses and Administrations have approved and strengthened its efforts in building the foundations for a National Forest policy. The public has been most generous in its support and cooperation.

Gratifying as has been the progress made in forestry within the short span of years in which public attention has been directed to it, we are still at the beginning of our course. Neither public agencies nor private agencies have nearly met the requirements to assure a continuous supply of timber to meet our national needs, or to assure that lands suited only for forest production will be kept productive. There must be greater participation by Government, Federal and State, in forest land ownership, more assistance from it to owners of forest land in the protection and administration of their tracts, and more ready willingness by it to correct inequitable taxation methods on growing timber crops.

The persisting indifference among some of our citizens toward forest fires must be overcome. The too frequent attitude of the forest land owner that no responsibility rests upon him to refrain from destructive harvesting of his crop must be changed to an interest in and championship of timber growing. In short, there must be more interest by the public in the timber grower, and more interest by the forest land owner in growing timber for public needs.

As at its inception, the Forest Service holds before it the goal of having all lands throughout this country primarily suitable for timber growth produce timber. Toward this goal are also directed the efforts of State forest departments and of other public and private agencies, in increasing numbers, working effectively, both directly and in cooperation, within their respective fields. There can be no question that the public will sustain this common effort to break down the obstacles which keep so many millions of our forest land acres unproductive.

There must be a united determination throughout the country that National and State forest policies be built up which will provide continuously for the wood needs of the public, for the control of erosion and floods, for a pure and bountiful water supply, and for the health and recreational benefits afforded by properly managed forest lands. Such policies are essential to sustain in a prosperous condition the industries, labor, and communities dependent upon our forest resources.

A NEW RECOGNITION OF SELF-TRAINING

Forest Ranger Claud C. Shannon of the Targhee has the distinction of receiving the first certificate issued by the Forest Service for courses of special study and training and demonstrated skill in forestry work. This certificate, which conveys the title of Practicing Forester, is worded as follows:

"This certifies that Claud C. Shannon is entitled to receive this certificate of PRACTICING FORESTER, having saisfactorily completed a course of study prescribed by the District Forester, and having demonstrated unusual proficiency in the handling of forest resources."

The certificate was signed by District Forester Rutledge and Colonel Greeley. Accompanying it was the following letter:

Dear Mr. Shannon:

It has given me great pleasure to sign the certificate as Practicing Forester which you have earned through the courses of special study and training under Mr. Rutledge's direction. I congratulate you most heartily on receiving this certificate, the first one issued by the Forest Service. I know that it stands for a deal of earnest work on your part; and it also stands as an example to other men in the Forest Service of encouragement to utilize their opportunities for greater mastery of forestry.

With warm wishes for your future work and success,

Very sincerely yours,
(signed) W. B. GREELEY
Forester.

A CALL FROM THE WILDS

By Manly Thompson, D. 4.

Question: What makes the wilderness wild?

Answer: Exclusion of the hoi polloi.

Question: How can we exclude said hoi polloi?

Answer: Keep the wilderness inaccessible.

Not one half of one per cent (volume measurement) of our recreation customers have any hankerings whatsoever for a real primeval wilderness area. And something seems to tell us that if we could get at the real feelings and desires of about 75 per cent of this small minority we would find nothing more nor less substantial than the desire for a semiprivate hunting or fishing preserve.

If this is true, it would seem to follow that the Forest Service is going a long way afield when it undertakes to make careful plans looking to the permanent exclusion of 99½ per cent of the public from large areas of our publically owned forests. That effect will certainly be created if we mark out definitely any present inaccessible area of forest land with the intention of holding it for the benefit of the few who have the time, inclination, and money needed to travel in such an area.

In our opinion the proper way to handle the wilderness area problem is to drop it entirely out of our work plan, as such. We should consider individual cases when they arise, of course. There is no dodging them then. But until that time arises, let nature take its course. We think the wild men should have the wilderness in its pure and unpolluted state only so long as there is no substantial demand for it by more and better qualified users. When that time comes with respect to any given area, we believe the wilderness experts should, with good grace, do what others of class have done before them - either lay aside their blankets and be civilized or else find a new wilderness.

It seems to be against the natural order of things for the Forest Service to undertake non-development of certain lots, pieces, and parcels of land as wilderness areas on a permanent basis. Inevitably we will have to yield if and when there is a public demand for the use of this land. In this view why spend time and money considering the matter, except as it arises incidentally through other problems. If we are watchful to guard against the development of wilderness areas when there is no need for it, which of course is a waste of Government funds, we practically solve the problem.

The wilderness area question has perhaps already received a great deal more consideration than it would otherwise, due to the vociferousness of its exponents. However else we may classify them, we certainly cannot say that they are strong silent men of the great open places. As a matter of fact we believe most of them are permanent residents and workers in the big cities, who are so satiated with seeing nothing but tin can dumps and advertising sign boards that they have come to believe the whole world is fast going to the dogs through overdevelopment. This is the natural reaction to these conditions. Each year, as regularly as we get the newspaper story about the total loss of the peach crop through early frost, we read about the (city) man who went into the forest naked, lived a month on nuts and berries, and clothed himself in the skins of animals he caught with his own hands. The Tarzan idea. We believe this hardy perennial is in reality a wilderness area expert in disguise.

We do not mean by this to disparage the wilderness enthusiasts or to say anything that would tend to discourage them. We realize the latter is hopeless anyway. All we do say is that if the wilderness enthusiasts are such hardy specimens of the genus homo as they appear to be, surely they are hardy enough to find their own wilderness. The question arises as to whether a self respecting wilderness enthusiast would want to play in a wilderness that has been marked out and protected for him by a paternal Government. Does this not smack too much of coddling and babying to square with his character?

What is a wilderness anyway? As we understand it and are concerned with it in the Forest Service, it means an area of unimproved ground in its natural state, of which no use is made by man. Any use of this land whatsoever by man tends to defile its purity as a wilderness, and this defilement tends to be in proportion to its use. It is the object therefore of the wilderness enthusiasts to keep the use of their playground down to a minimum, the rallying cry being "preserve nature." This is all right as far as it goes, but it rather ignores our old tried and true friend "the greatest good for the greatest number." We have the feeling that the preservation of certain areas as "wilderness" areas, by an affirmative act on the part of the Forest Service will lend itself to a somewhat selfish use of such areas by a very small group of people, and a precedent of this nature may hang like a mill stone around our necks for a long time to come.

We suggest that development or lack of development on any given area take place as conditions may justify, the Forest Service neither going ahead of public needs nor holding back after the needs have arisen. It seems to us wasteful to do otherwise. In the meantime we suggest the dropping of the wilderness area question, so far as it may contemplate an affirmative policy of non-development of any forest land under the control of the Forest Service.

DAVID DOUGLAS - RESEARCHER

By D. C. Ingram, D.6

With considerable interest we learn, through the columns of the Service Bulletin, the claim of District 3 to the title "The Cradle of Research."

With no thought of appearing in the role of cradle snatcher nor of stealing the laurels from our noble sister's brow, but rather with the neighborly thought of averting disaster in the certain accusation that the writer "took in too much territory", it must gently but firmly be insisted that the title needs modification. The addition of the word "forest" or "silvical" before the word "Research" is suggested, or perhaps the word "Research" might be changed to "Researchers."

In this frame of mind and with all due modesty, District 6 presents her claim to early grazing research.

Reference is not here made to Sampson's and Dayton's excellent pioneer grazing studies in the Blue Mountains, nor to J. T. Jardine's better-known range management experiments on the Wallowa. We likewise tactfully and modestly refrain from boasting that range reconnaissance (now range surveys) originated in District 6.

Far earlier than all these, our "Director", an able botanist, naturalist, and horticulturist, one David Douglas, known in his time by the Indians as "the grass man" initiated the first "Vegetative Readiness Record". Here it is, made over 100 years ago at the base of the Blue Mountains, and listed in Douglas' diary as of March 29, 1827:

"Camped 3 miles below Lewis & Clark River (Snake River). Vegetation much later than last year. Lilium pudicum (Fritillaria pudica) the only plant in blossom on the plains. Blue Mts., where I was last year enwrapped in snow to their base."

Checking back - as is the time-honored custom and privilege of research - we find sure enough in Douglas' diary on March 30, 1826, "We stopped for breakfast opposite Lewis & Clark's River." In another part of his journal he records, on or prior to that date, the collection of "the beautiful Lilium pudicum and two new genera of Cruciferae and Ribes cereum, but what gave me most pleasure was finding a new species of Wulfenia (Synthyris, probably S. reniformis) ******* This part of the country is parched and bare."

David Douglas, it will be seen, made seasonal records with type write-ups, wrote a diary, and got the same thrill in procuring a new plant as that enjoyed by plant collectors today. It is perhaps significant, if not prophetic, that yellowbell (Fritillaria pudica), one of the principal indicators of range unreadiness in District 6 as well as in the Great Basin, should be coupled with the seasonal record. These simple recorded observations, not greatly different from those made by rangers in their grazing work today, were typical of the man Douglas who learned early to accurately observe and faithfully record. After all, isn't that the foundation of Research?

Douglas' knowledge, interest, and research in trees are too well known to warrant repetition here. They make, however, an interesting and romantic story.

NOTICE

Appended to this issue of the Bulletin are illustrations of the silver tea set and chess table, parting gifts to the Greeleys from members of the Forest Service.

The chess table was chiefly designed by Mrs. Nellie W. Brenizer of the Washington Office and was made at the Forest Products Laboratory by Mr. August Schlaak, who did the work unofficially. It is a folding table of vari-colored woods. The small center sections are of maple and black walnut, the light colored band of maple, and the outer band of black walnut. All the inlaid figures and the narrow lines are of black cherry. The entire table is beautifully finished with a dull French polish.

PUBLIC LANDS TO HAVE GRAZING ADMINISTRATION

By Alva A. Simpson, Custer.

House Bill #445 introduced by Representative Leavitt of Montana, is so far as known the first Congressional Authorization to the Secretary of the Interior to establish a grazing administration on public lands. This bill has been enacted into law and as a result the stockmen composing the Pumpkin-Mizpah Grazing Association are now presenting to the Secretary of the Interior their recommendation for the control and administration of the area specified in the bill.

The terms of the law provides that the Secretary of the Interior may enter into co-operative agreements with the State and private owners whereby the lands of the United States may be leased for grazing purposes for a period of 10 years. The Secretary is also authorized to enter into cooperative agreements with other Government Bureaus for the carrying out of the purposes of this Act.

In the summer of 1926 a group of stockmen, being dissatisfied with the existing conditions on the public domain, prevailed upon Congressman Leavitt to personally inspect the range and proposed that certain Government lands be set aside for grazing purposes under rules and regulations similar to those established for National Forests. Congressman Leavitt introduced an identical bill to the present law in the 69th Congress and secured its passage by the House. It was held up in the Senate by Senator Walsh pending an investigation by him, and he held a hearing in the fall of 1927 at Miles City at which proponents and opponents were heard. The present law is the result of Senator Walsh's approval of the Leavitt Bill.

One hundred eight thousand acres of land is involved, of which, 40.8 per cent is owned by the N. P. Ry. Co., 28 per cent by private owners, 5.9 per cent by the State of Montana and 25.3 per cent by the U. S. Government. The Northern Pacific Ry. Co. have indicated their consent to a 10 year lease on the basis of the taxes that accrue on the land. The State is expected to give a term lease and private owners are to be offered equal terms. The whole is to be handled through the Stock Association on a per head basis, and the Secretary of the Interior is to be asked to establish regulation for the use and protection of the forage resources upon a basis similar to the present grazing regulations of the Forest Service. The final working out of the details are now in the hands of the executive committee of the Association and an attempt is being made to consolidate the varying viewpoints of the graziers, the Interior Department and the private land owners.

This law marks a milestone in the handling of the forage resources on the public domain. Upon its success or failure depends more than the immediate welfare of the graziers involved. Common sense administration and patience are particularly necessary if the greatest measure of success may be had, but at least the success of our administration of forage resources has been definitely recognized by Congress and by these stockmen.

BRAIN FOOD

See the forest on these hills,
Destined for the paper-mills:
Pause amid these woodland scenes--

Here are future magazines.

There a sturdy giant falls:
That will be the new McCalls.

--Here's some timber for a dry jest
In The Literary Digest.

See that pine against the sky?
That is Harper's for July.

See that hemlock in the canyon?
That's the Woman's Home Companion.

--There's a fellow cutting spruce:
Let us ask him, for whose use.
What! It's for the Mercury?
Woodman, woodman spare that tree!
Norman R. Jaffray, In Life.

THE SANTIAM ADDS:

Look, the immense pulp-wood ricks,
That is for "Six Twenty-Six".

And the balm on yonder knoll
That's the "Santiam Patrol".

On all that drainage put the ban--
That is for our Working Plan!
C. C. Hall--D.6.

LIONS ON THE SEQUOIA

Last fall a party of cow men with two dogs killed three lions a few miles above California Hot Springs on the Sequoia Forest. Two were adults, a male and a female, and one was about a year old. In rounding up and bringing these lions to tree they covered an area of about five square miles and found the carcasses of 15 deer which had been killed by lions during the late summer and fall. The hunters probably covered 60 per cent of the area; therefore probably 25 carcasses would have been found if the entire area of five square miles had been covered in hunting for the lions. These lions ranged over an area of approximately 60 square miles, all fairly good deer country, and if the five square miles represent their average kill it may be safe to assume that the summer and fall kill on the entire range covered by these lions would be 300 deer. The cow men who killed the lions are close observers of tracks and signs of the woods and are fairly certain that the lions covered the 60 square miles of territory in making their regular rounds and were the only lions in that area during the past season.

On the other hand, some hunters followed a lion for eight days along the Kern River, finally caught up and killed him, and during that time they did not find where he had killed a single deer, although he was in a good deer country. He did, however, according to signs, make a run at a deer which he apparently missed. He killed some smaller animals such as rabbits, squirrels, etc.

Another cow man reports a case where an old lion, apparently too old to catch deer, started killing calves and in two weeks killed three calves.

Possibly a discussion of occurrences of this nature may give us a better understanding of this question. -T.W., D.5 News Letter.

DEATH OF J. B. (JACK) CAMMANN

On Sunday, April 15, death removed Jack Cammann from his labors as a Forest officer and left a vacancy in the organization and in the hearts of his fellow Forest officers that probably never can be filled.

Jack lacked just eighteen days of having been in the Forest Service for a period of twenty years. He began his career on the Gunnison National Forest on May 5, 1908, as a Guard and served there for a little over six years as Guard, Ranger, and Deputy Supervisor. On June 16, 1914, he was transferred to the District Office where he has been employed ever since, largely in the capacity of a mineral examiner, but working on many other activities. His loss will not only be felt in the Forest Service, but he had established confidence on the part of Land Office officials in his integrity and ability to an extent that Jack Cammann's word in mineral claim hearings was accepted without question.

Most of all will Jack be missed by those of us who were intimately associated with him and had come to appreciate his very human traits, his humor, generosity, and willingness to accept any job assigned to him without question. He will be long remembered as the highest type of Forest Officer.- District 2.

A WIRE

Cleveland, Ohio, April 26, 1928.

Forest Week films showing in our suburban theatres this week. Downtown theatres could not arrange programs. If we can have films another week, Loews downtown theatres will show all week. Museum of Education can use May 7th, 8th, and 9th in high schools. Advise immediately.

Cleveland Film Board of Trade.

DESIGNING ROADS FOR A GIVEN SPEED

Part 9

By T. W. NORCROSS, Washington.

The writer has been asked whether the plan for designing roads to give a certain service measured in speed means that the speed over the entire road must be constant. This same question has probably occurred to many. Those assuming the answer to the question as yes have probably condemned the whole plan -- and rightly so.

The answer to the question is No. There are some roads where design for a uniform speed throughout the entire length will be the proper action. There will be far more cases where a uniform speed will be planned over sections of roads - some sections being miles in length while others will be very short. But to plan for uniform speed for conditions of flat land, steep and winding sidehill, steep grades and the many other conditions that are constantly met in the National Forest road work would be ridiculous and indefensible. But more than all that it would prevent carrying out one of the objectives of the plan, namely, securing desired service at the least annual cost.

What is sought is a road which at the least expenditure for maintenance and for interest on and requirement of the investment will give the required service as measured by the elapsed time between the points or sections to be served. Two points, A and B, may be 30 miles apart and the specifications may call for two-hour travel time between these termini. Possibly the topography and other conditions may be such as to justify a 15 mile per hour road for the entire distance. It is far more likely that the speed through certain sections would depart widely from the 15 mile per hour average. For instance, due to steep grades the average speed over an 8 mile section might be 12 miles per hour. Over the balance, the average speed would of course exceed the 15 mile average for the entire road. The speeds might for instance be something as follows: -- 3 miles at 10 m.p.h., 11 miles at 12 m.p.h., 5 miles at 15 m.p.h., 9 miles at 18 miles per hour, 2 miles at 20 m.p.h. and 1 mile at 22 m.p.h. In this particular case the 15 m.p.h. required average for the entire road would have been the speed on only 17 per cent of the entire road length.

A fundamental feature of the plan is the coordination of speed on adjoining sections of the road. Too little consideration has been given to such coordination in the past and the result has been waste of money, danger points, and accidents.

Designing resulting in proper coordination presents many interesting questions. For instance, conditions may require that a certain curve be designed for 20 miles per hour. What is the maximum permissible speed on the approach to the curve? Frequently the width, alignment, condition of surface, gradient, etc., are thoroughly adequate for a speed of 30 miles per hour or more -- and if a section of a road is good for a certain speed, few drivers will travel at less than that speed. At the beginning of the curve, the car's speed must be reduced to 20 m.p.h. Fragmentary observations indicate that for a reduced speed of 20 m.p.h. and provided the gradient is slight or nothing, the speed on the approach should not exceed 25 m.p.h. The difference between the 25 m.p.h. and actual entrance speed represents excessive braking. A danger point exists. In the example just cited, should the tangent speed be 25 m.p.h. or what? How much can the approach speed be increased if the gradient is plus of varying amounts and how much must it be reduced if the gradient is minus?

Fairly good data are available on the distance required to stop cars traveling at various rates of speed. But these apply to level grades? What will be the right distances for the several plus and minus grades. Again, it is said that a car equipped with 4 wheel brakes and traveling at 30 miles an hour should be stopped in 85 feet - this makes adequate allowance for reaction time. Can reduction from 30 to 20 be made in ⅓ of the total distance; if not, what is the relation? A part of the braking power is due to use of compression. Just what does this add; does the percentage vary much with different cars and different speeds? In this connection, fragmentary observations have been made and it appears that for level or slight grades and in a short distance of say 50 to 100 feet, compression "knocks" about 2 miles per hour off the speed regardless of the car and the running speed. This looks rather "fishy". The condition will be really studied, not only for the level grades but the plus and minus grades.

Another of the interesting questions that are brought up is the relation of acceleration to length. A driver leaving a 15 m.p.h. curve and sighting another sharp curve only fifty feet ahead will accelerate only slightly if at all. As far as he is concerned he is on a "slow section" of the road rather than a "dangerous section". But suppose the tangent connecting the two curves is several hundred feet long and this tangent section in itself is good for 20 or more miles per hour. To what speed would the driver accelerate? Would such speed result in a danger point at the next curve? Usually the road can be redesigned to avoid this danger point at reasonable expense or with very slight sacrifice of time spent in travel. If not this is the logical place for a cautionary sign. These and many more questions can be solved. They should have been solved long before this.

GIFT TO PARK FUND

A gift of $5,000,000 has been made from the Laura Spelman Rockefeller Memorial to the Great Smoky Mountain National Park fund. The sum of $4,913,000 has already been raised by subscription and by appropriations of the North Carolina and Tennessee legislatures. The Rockefeller gift brings the total almost to $10,000,000, which, it is believed, is more than enough to purchase the land for the park. The park will lie partly in Tennessee and partly in North Carolina. It will be some 700 square miles in area and will take in almost all the Smoky Mountain territory. - SCIENCE, March 16, 1928.

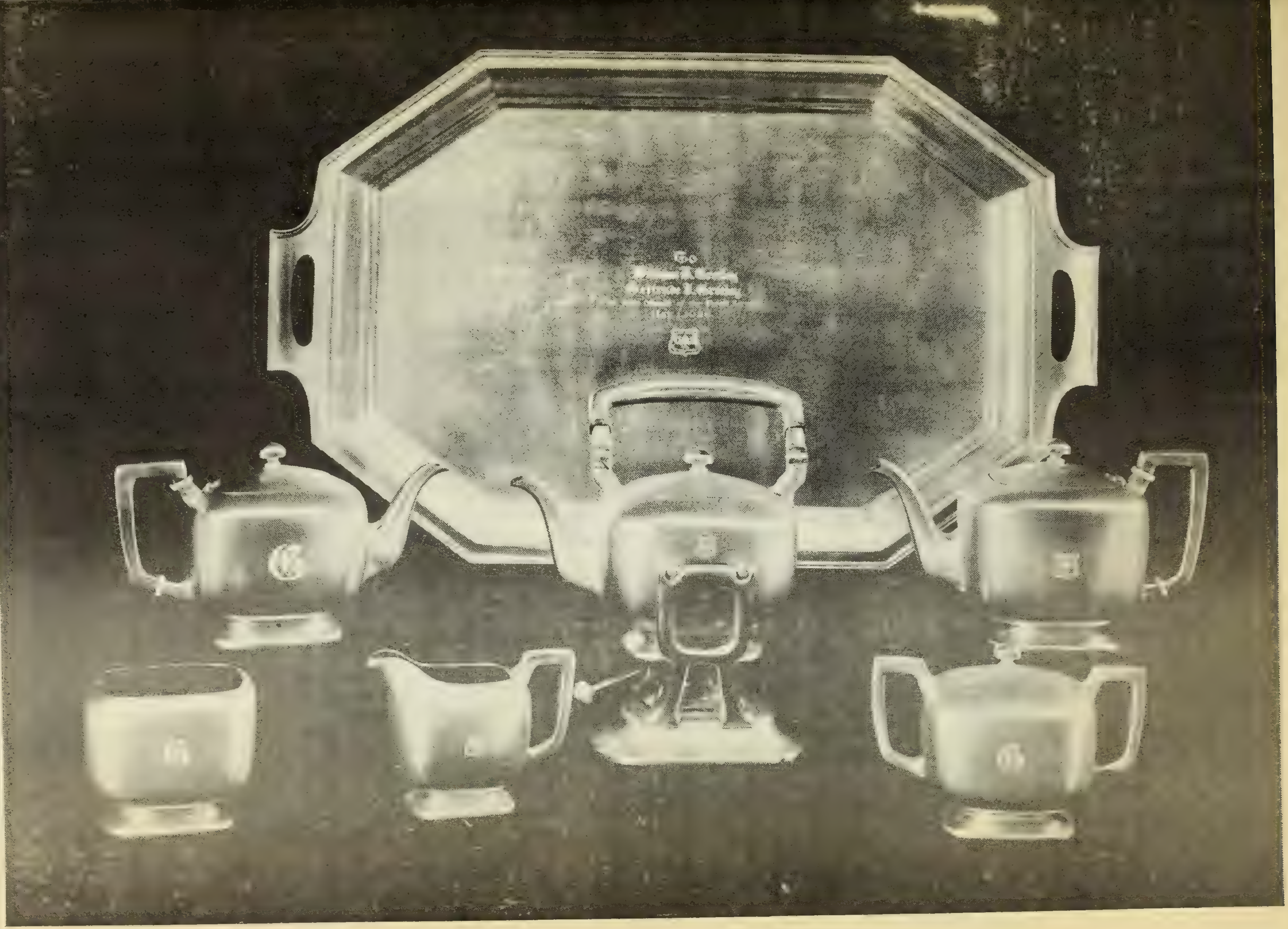
TREE SNOW FENCES

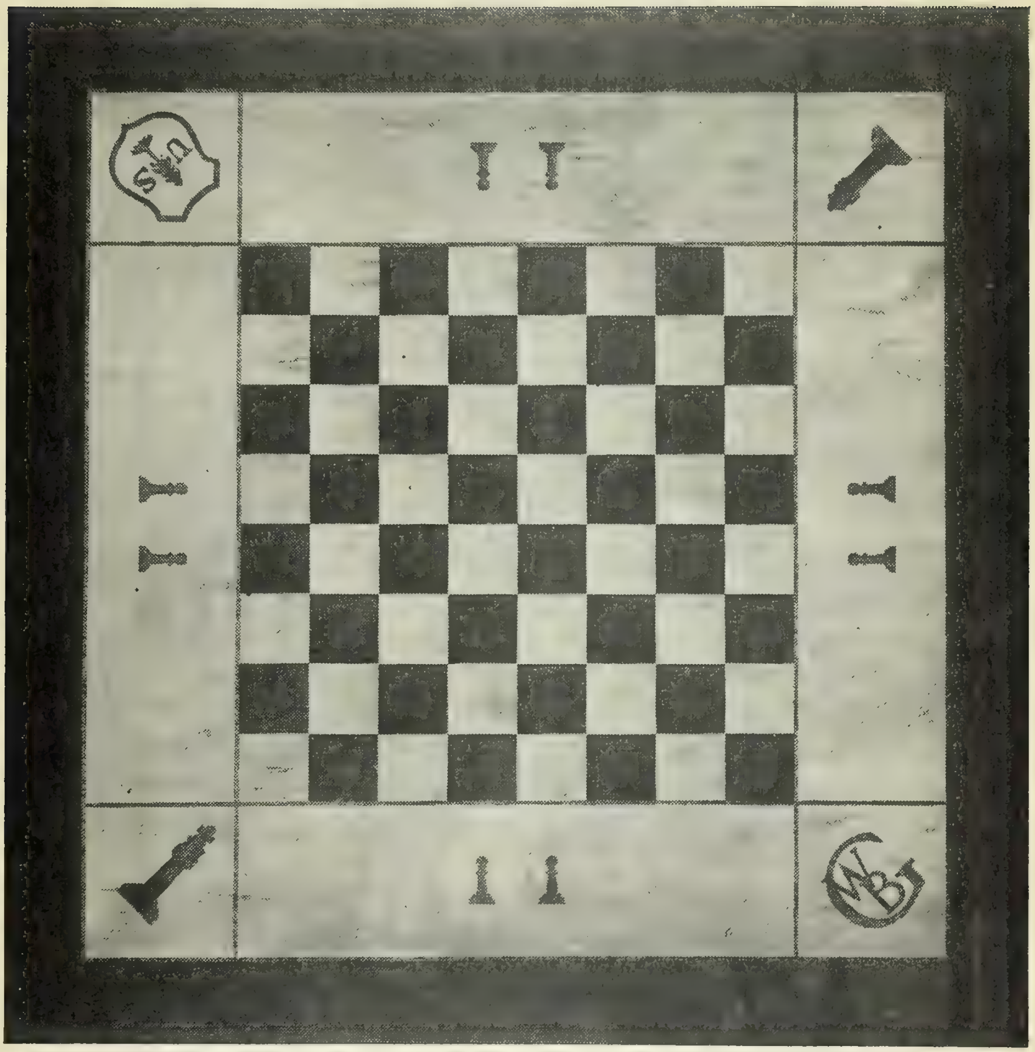
As a result of the activities of the American Forest Week Committee in Nebraska, the C.B.& Q. Railroad has been interested in planting tree snow fences along their rights of way in western Nebraska and eastern Colorado. The work will be started on a relatively small scale because of the unsuccessful results of similar work in North Dakota and in some other places which still appear discouraging to railroads when approached on this subject. The C.B.& Q., nevertheless, plans to make a real test and, as a first step, is making a reconnaissance at the present time in cooperation with the Supervisor of the Nebraska National Forest and the State Forester of Nebraska for the purpose of locating exact sites and picking the species to be used. - District 2.

FORESTERS ON LEAVE FOR ADVANCED WORK

Two members of the Forest Service are taking leave during the present year in order to undertake work leading to the degree of doctor of philosophy at the School of Forestry and Conservation at the University of Michigan.

R. E. McArdle of the Pacific Northwest Forest Experiment Station is taking advanced work in the field of forest pathology and Robert K. Winters of the Whitman National Forest in forest mensuration. I. H. Sims of the Appalachian Forest Experiment Station, who will receive the degree of master of forestry this spring, expects to remain another year in order to take advanced work leading to the doctorate in the field of silvics. R. C. Hall, who for several years has been connected with the Division of Forest Insects in the Bureau of Entomology, where he has been working on forest insect problems in cooperation with the Northeastern Forest Experiment Station, is studying for a doctor's degree in the field of forest entomology. Dean Dana reports that for next year the prospects are apparently good that there will be one or two men taking similar advanced work in the field of game management and perhaps in forest economics. E.N.M.





FOREST SERVICE U S

Service Bulletin

U.S. FOREST SERVICE
(Contents Confidential)

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A SUBSTITUTE FOR MR. MORRELL'S EXAMINATIONS

By R. D. Forbes, Allegheny For. Exp. Sta.

In the Bulletin of April 23 District Forester Morrell argues in favor of examinations to demonstrate the progress in technical knowledge of men already in the Service. My objection to the holding of such examinations is that the whole scheme is unnecessarily formal and would consume a vast amount of time of the unfortunates who are selected to frame the questions and mark the papers. It is twelve years since I had any work on a ranger district, and in the interval it seems to me that the ranger job has become a fearful battle with standardization, priorities, work plans, and other office jobs. I therefore propose something a little simpler as a substitute for the examinations, but in my judgment something equally effective.

If men wish to demonstrate their technical knowledge on any subject why not encourage them to write about it in the District letters, Service Bulletin, Forest Worker. Journal of Forestry, Journal of Agricultural Research, various scientific journals, and even such low-brow media as American Forests and Forest Life, The Saturday Evening Post, or Snappy Stories? Surely there is no lack of publications in the columns of which we may all spread our technical and literary wings; only recently the editor of the Service Bulletin bewailed the lack of material for his sheet, and the editor of the Journal of Forestry has been flayed for not publishing more material that will be intelligible and valuable to the rank and file of foresters.

It has been my experience that there is no quicker way for a man to find out whether he really knows anything or not than to attempt to tell somebody else about it in print. I am constantly impressed with the number of things I know that "ain't so." Mine is an astonishing fund of misinformation. This may do for everyday conversation, but when I attempt to write anything it is indeed to discover that "a man will turn over half a library to write a book", as Dr. Samuel Johnson once remarked. Even if as a result of turning over a few books I decide not to write the article for others, I have at least learned something myself. It is my belief that those who know most write best.

But, some critic will surely say, "A heap of men who know a lot just can not write about it." If so, how in the world are they ever going to pass one of Mr. Morrell's examinations? For the sake of these men and women, let me suggest a third alternative. Why not keep a record, right in the daily diary, of the articles or books on technical and scientific matter which they read? The best teacher I ever had in high school had an appalling habit of asking everyone in her class to hand in at each recitation a slip of paper on which was written the length of time we had spent preparing for it. It was not easy under her eagle eye to claim that one had spent a full hour on the daily lesson if about half of it had been snatched from conversation in the family sitting room or street car travel to school. Similarly, some of us might record in our diaries the reading of a worth-while book or article when in reality we had just thumbed over its pages. But certainly the man who has learned something out of a book is going sooner or later to put it to use in his daily work, and if he has only half learned it, his superior is going to recognize the fact. That is, if his superior deserves to supervise his work. Which brings me to my final thought: that no amount of artificial testing of a man's knowledge compares in justice and ultimate results with alert and conscientious supervision. The Supervisor of a Forest, if he is worth his salt, knows how much his Rangers and Junior Foresters know; and the District Forester knows how much his Supervisors know.

ANALYSIS OF WASHINGTON OFFICE ORGANIZATION

At a recent Service Meeting, Colonel Greeley discussed the information so far secured in the study of Washington Office organization, which he said he finds it necessary to leave as a sort of legacy to his successor. The desirability has been discussed of making a real check on our activities from the standpoint of ascertaining if the Washington work and the Washington expenditures are in balance with those of the Service as a whole, whether or not we can reduce the cost by eliminating certain lines of work in Washington, whether certain other lines of work in Washington require expansion, etc. Each Branch has responded with work sheets showing as closely as possible the actual distribution of time of members between all of the activities and functions in which they are engaged, and we have a record in number of days per annum of what practically every activity in the Washington office is costing. The Districts have also responded with recommendations and suggestions, and we have a composite viewpoint from the District offices of what the real job of the Washington office is and where it is overlapping beyond that job or failing fully to discharge it.

In order to carry this study through as thoroughly and exhaustively as possible and to give to it the benefit of a unified viewpoint by the same man, Mr. Kircher has been appointed to undertake an analysis of the whole problem and the material presented, working under Mr. Sherman on special detail to the Forester's office. Kircher has been asked to take up this work now to the extent time can be made available for it from his Forest Management schedule, and to give it his full time beginning not later than September 1. It will also be helpful to bring the field viewpoint to bear effectively upon organization and expenditure problems in Washington. With this in view it is planned to detail District Forester Morrell to Washington for a few months during the coming winter when Kircher's analysis has progressed far enough to be ready for Morrell's cooperation in further development of the study. Advice on special points may be sought from experts outside of the Forest Service, should it prove desirable. Colonel Greeley stated he had gone over all the material and listed for each Branch the points which seemed to merit special consideration, adding his comments and suggestions. The study really embraces two different things: (1) to lay the basis for the most effective execution of the functions that belong in Washington; (2) to lay the basis for putting into effect in course of time whatever change in functions ought to be made as between the Washington office and the field, or between the Washington office and other bureaus, or between the Washington office and outside agencies. It is important to take a fresh look every once in a while at the relationship of the Washington staff with the Districts, and make a check of this kind. Colonel Greeley asked the cooperation of each Forest officer with Major Stuart and Mr. Kircher in making this study thorough, effective, and constructive.

J. G. PETERS APPOINTED ASSISTANT FORESTER IN CHARGE PUBLIC RELATIONS

The following is quoted from the Department press release announcing Mr. Peters' appointment as Assistant Forester:

"Appointment of James Girvin Peters as Chief of the Branch of Public Relations in the Forest Service, United States Department of Agriculture, was announced to-day. Mr. Peters succeeds Major R. Y. Stuart who on May 1 took over his duties as Chief Forester.

Mr. Peters has been connected with the public relations work of the Forest Service for many years. He is the principal authority of the Service on State forestry policies, and more than any other man has been instrumental in bringing about the adoption of progressive forestry policies and the development of forestry activities in the States.

"'The big job of the Branch of Public Relations is to join forces with all existing forestry agencies in furthering the development of forestry in this country,'" Mr. Peters said to-day. "'One part of this task is the maintenance of proper public understanding and support of the National Forests, which represent one of the principal advances in forestry in this country to date. Equally important is the development of forestry elsewhere. This will be done to an increasing degree through the States, and every means will be emphasized to strengthen and recognize their place in forestry. Our policy of cooperating with the States, private forest owners, and other agencies on the basis of mutual helpfulness will of course be continued. It is our aim to lend our aid to a mutual program in cooperation with them looking toward the protection and reforestation of all forest lands which are best suited to the production of forest crops. Forestry has made notable progress in the States in the past few years. The Forest Service is now cooperating in one or more phases of forestry activity with forty-five States.'"

Mr. Peters is a native of Baltimore, Maryland. He is a graduate of Johns Hopkins University, and of the Yale Forest School, where he received the degree of Master of Forestry in 1903. He first entered the Forest Service as a student assistant in 1902, and in the following year received an appointment as Field Assistant in Federal and State cooperation. In 1910 he was placed in charge of State and Private cooperation work in the Forest Service, and he has remained in charge of this work through its various changes and developments ever since. When the Clarke-McNary law went into effect in 1925, Mr. Peters was placed in charge of this work, and under his leadership the work of cooperative fire protection, reforestation of private lands and forestry extension has developed until it is now being carried on in every major forest region."

YALE FORESTRY SCHOOL MAKES CHANGES IN EDUCATIONAL POLICY

The Yale School of Forestry has announced certain changes in educational policy that will greatly strengthen its course of study and will broaden the opportunities for work of an advanced and specialized character. These changes involve first a modification of the requirements for the degree of Master of Forestry, second the recognition of Forestry by the Graduate School of the University as an appropriate field of study for the degree of Doctor of Philosophy, and third the enlargement and enrichment of the courses offered in a number of subjects.

The new educational policy aims to provide, as formerly, a training for the general practice of Forestry and, in addition, to afford special opportunities for the advanced student who desires to specialize in some branch of Forestry. This will strengthen the present curriculum and enable the School to fulfill its fundamental objective of offering to the individual student a type of training which best meets his special educational needs.

Judge: "Your wife says you have her terrorized."
Prisoner: "Honestly, your honor, I ---"
Judge: "I am not asking this in my official capacity, but as man to man, how do you do it?"
D. 4 Bulletin.

AN AUTHENTIC LETTER FROM BOSTON, CENTRE OF CULTURE

Dear Sir:

Plese sene me cualifications for joyning the forestry department of the United States Government. I am now seventeen years old and avrage mentality. I am considered very handsome by some of the girls, most of them in fact!

You may send the above information to my offices at the above address. My secretary, Miss Ambrose, annsers all my male.
Yours truely,"

"NEW NAMES FOR OLD"

By Carl B. Neal, Umpqua

Mr. Peck has issued a challenge for personal opinion and has also indicated that he will be able to pick the "conservative" from the "radical" by their answers. On the question he has raised I am a conservative. There is a certain sentiment attached to our present titles and they are understood by every one inside and outside the Forest Service who has any interest in the matter, so why start confusion by making a needless change? What of it if our present titles do not describe the job - neither does "BVD's" describe our unmentionables and yet I dare say the name will stick, regardless of what manufacturers may do about it.

While my first and loudest vote is agin any change, which is the true criterion of a conservative, I would rather compromise with the radicals than let them dictate an entirely new dictionary of titles. First, I will concede to Mr. Peck the point which seems to him most vital, if any changes are made we should first wipe out the present duplication of the term "district" but I would do so differently. It seems to me more logical for the Forests to be divided into Divisions and assembled into Districts than the other way around, also this change would result in less confusion. Maybe this is a minor point so I won't strenuously object to his being a Division Forester in charge of a Division.

If I couldn't head off the radicals by that concession, and if they howled long and loud enough, I'd give them the whole slate as drawn up by the Supervisors of D-2 with the exception of the change from Supervisor to Manager. If every administrative unit is to be administered by some class of a Forester why leave the present Supervisor out in the rain when he is the only one administering a Forest? Is there any more reason to designate him a Manager than to so designate the other administrative heads? As Mr. Peck says with reference to his own title I will also say with reference to mine, "I am prepared to argue long and loud and I challenge anyone to state a good reason why- - -". If I am to lose my title of Supervisor I want to be a Forester! I administer a Forest, so why not? I am willing to stand for a qualifying adjective, if necessary, to be consistent with other titles, but what more logical than to have a Division administered by a Division Forester (or Ranger) a Forest administered by a Forester, a District administered by a District Forester and the entire Service administered by a Chief Forester?

ADVANTAGES OF A DICTAPHONE

Due to changes in schedule on the Santa Fe and an announced exchange of the Arizona-Albuquerque sleeper from train No. 22 to train No. 8, and the failure of such a sleeper to run on No. 8 on the first and second nights of the new schedule, I was roused from my berth and unloaded into the darkness of early morning in Albuquerque at 3:15 A.M., and having taken on a bracer of fried ham and coffee, decided that it was not worth trying to go to bed. My trusty tin stenographer, familiarly known as "Dickie" was found to be on the job and ready for work, and in the small hours of the morning between 4:00 A. M. and 5:30 A. M. I was able to dictate a report on my trip and handle several rush matters pending on my desk, turning out enough dictation to keep a stenographer busy for the full day. The dictaphone is lacking in some of the understanding qualities of a private secretary, but is believed to be the only stenographer in the district who will work cheerfully at that hour in the morning. M.M.C., D.3, Bulletin.

FOREST SERVICE CARRIES COALS TO NEWCASTLE

Two new Forest Service films, "The Forest And Health" and "The Forest And Wealth" have successfully invaded the commercial picture theatres of Los Angeles, in competition with the well-known home product of Hollywood. The Los Angeles Film Exchange Board of Trade writes as follows:

"West Coast Theatres, Inc., are showing the films at their houses in Los Angeles. Their week begins on Friday and the chances are they will continue showing them during the coming week, namely, April 27th to May 3rd. Their booking department told me after previewing the films, that they would be glad to use 12 prints if they could be furnished them, revealing the fact that the films which you have sent us must be good." - W. S.

A FOREST PIONEER PASSES

By Phil H. Dater, D-6.

Mr. Walter M. Campbell of the District Office passed to the Great Beyond on the morning of February 22. The passing, while not entirely unexpected, was none the less a shock to his many friends in the Forest Service where he had faithfully served for more than twenty-one years. The funeral services were attended by nearly the entire District Office force. Mr. Campbell is survived by Mrs. Campbell, two daughters, and three sons, one of whom, Forrest G., is employed in the District Office.

Mr. Campbell was of Scotch and English ancestry, and was born in Eugene, Oregon, on July 2, 1876. His parents, William R. and Clara Little Campbell, moved to Boise, Idaho, when the son was still a child. The mother taught in the first Indian school on the old Nez Perce Reservation. His father was a carpenter by trade, an officer in the Civil War, and is understood to have been connected with the administrative forces of the reservation. As a boy, Walter M. learned the Indian jargon and many Indian words and phrases were retained in his memory.

Walter M. attended High School in Moscow, Idaho, and after other ventures became a Railway Mail clerk. At one time his run terminated at Portland.

Mr. Campbell became an Assistant Forest Ranger on the Weiser Forest November 1, 1906. He served in District 4 for nineteen and one-half years. He was Deputy Supervisor on the Weiser, and Supervisor of the Minidoka, Boise, Cache, and Uinta forests. On August 9, 1925, as Assistant Forest Supervisor of the Uinta, he was one of a party enroute to a forest fire. Trouble was experienced with the truck and in assisting to push the truck over the crest of a hill Mr. Campbell overtaxed his heart and suffered an injury from which he never recovered. He was transferred to Portland May 1, 1926, in the hope that the lower altitude would be beneficial. For a time his condition improved, but about two months ago there was a severe recurrence of the trouble from which attack he never rallied.

In District 6 Mr. Campbell was Administrative Assistant in the office of Engineering, being in charge of the fiscal records of the major highway program. New to the work and unfamiliar with D-6 forests, he accomplished a splendid task in bringing the records of the office into understandable shape. He was an indefatigible worker and outstandingly conscientious in all he did. His tact and kindliness made many new friends for him among his Forest Service associates and those of the Bureau of Public Roads with whom he came in close contact. His life and interests were bound up with those of the Forest Service, for which he was a most loyal worker.

Mr. Campbell was a 32nd degree Mason and a member of The Shrine.

HOW WOULD YOU DISTRIBUTE THIS TIME?

A ranger makes preparation to put in a week in the field.

First Day

		Hours
1.	He gets up Monday morning and puts in two hours cooking his breakfast and washing up the dishes and cleaning the house	2
2.	He wrangles his horses	1
3.	He gets his pack outfit together, and saddles his saddle and pack horses and throws on his pack	1
4.	He rides two hours across the open country getting to the Forest	2
5.	He goes by trail across a cattle and horse allotment ridden five days previously and needing no inspection at this time, in order to get to a timber sale and on other work for the week	2
6.	He stops for lunch at a cow camp, and discusses during the lunch hour with the herder the matter of managing cattle on the allotment, and range conditions	1
7.	He marks and scales timber on the sale	5

Second Day

8.	The ranger talks with the sale operator on sale matters during the breakfast hour	½
9.	He inspects sheep allotments, keeping a lookout for fire all the time, since conditions are getting bad and there is considerable fire hazard	4
10.	He rides an additional hour from his general grazing course to get to the top of a peak to look for smoke, and returns to his course over the range	1
11.	He stops for lunch alone	1
12.	He charts two grazing quadrats	4
13.	He shoes two horses in front	1

Third, Fourth, and Fifth Days

14.	He works on trail construction	26

Sixth Day

15.	He rides three hours inspecting sheep range, there being no fire hazard in that vicinity	3
16.	He then starts to return to the R. S. via the bottom of a deep canyon where there is no stock or forage and no fire hazard. This is the easiest route home (Saturday). Not much horse feed in the hills, and several odd headquarters jobs to do around headquarters, and he can be with his family over Sunday. Besides, mail comes up today	7

Two men in Accounts and one in Operation made a distribution of the above, and when brought together for comparison showed very close agreement. The decision was that no charge was to be made of items 1, 6, 8, and 11, since the ranger was not in official time status. Item 7 was charged to Timber Sales, item 9 to Grazing Administration, item 10 to Fire Prevention, item 12 to Grazing Investigations, item 14 to Improvement Construction, and item 15 to Grazing Administration. Items 2, 3, 4, 5, 13 and 16 were distributed in proportion to the above activities at the close of the trip. What do you think of this distribution? - T. V. P., D. 4 Bulletin.

DESIGNING ROADS FOR A GIVEN SPEED

Part 10

By T.W. Norcross, Washington

Several other pertinent questions have been asked. "Is it expected that as a result of the investigations, the speed resulting from the various combinations of elements of standard can be exactly determined - say to within a mile or two"? The answer is No - not in all cases. Also such accuracy, while desirable, is not essential. Already a practically exact determination has been made for the combinations tested at the Pedlar River Plot. Similar results for a considerable number of other combinations are expected. It may be impossible to obtain the same degree of accuracy for several combinations where grade is a factor unless test sections are constructed. It is not believed that our needs are so exacting that this expenditure will be necessary. Also the effect of unevenness, wetness, softness, etc. of the road surface can probably not be exactly determined. But this appears unnecessary since the speeds obtainable from the hard and smooth road and those which are very largely in that condition can be secured.

"Will it be possible to so design and construct that the resulting elapsed time will be exactly what is desired"? Answer to this has partially been made in the preceding paragraph. The aim will be to get the desired elapsed time, but accuracy to the "nth" degree is not necessary. Traffic interference must be considered and the amount of this varies. While the elapsed time on the constructed road may not be exactly what was specified, there can be no doubt that the amount of difference will be decidedly less than now when light duty roads constructed to the same specifications and to meet similar needs range in average speed from a minimum of about 10 or less to a maximum of 20 or more.

"Should allowance made for traffic interference vary with different roads"? The answer is in the affirmative. It should not be forgotten however that the volume of opposing traffic is the basis for the specification on frequency of turnouts. Very possibly such specification should ordinarily be based on the maximum time lost due to normal travel not exceeding a certain percentage of the total time required for travel between two objectives with no traffic interference. On certain Sundays, holidays or special occasions the amount of traffic will on some roads far exceed the normal and the road if planned for normal traffic will not give the planned service. Such abnormal traffic will vary greatly for different roads, both in frequency and amount. At times the value of lost time during the few days of abnormal traffic will not justify the construction of more turnouts; sometimes such will be justified, this occurring most frequently when the abnormal traffic seriously interferes with the transportation of fire fighters and supplies. The use of fire sirens at such times will increase the service value of the road for the fire fighters. Also if necessary, advantage can then be taken of some of the factors of safety provided for ordinary drivers and usual conditions.

"Should the standard be restricted to that which will meet the specifications if a higher speed standard can be secured at no additional expenditure for maintenance and for interest on and retirement of the investment"? The answer is No. Get the most possible from the dollar provided the annual expenditure does not exceed that required for the standard which meets the requirements and no more.

"Have not other organizations done research work that make unnecessary the work being done by the Forest Service"? It certainly would appear that this would be the case. But it isn't. Fragmentary data only are available and these will be utilized, whenever found and to the greatest practicable extent. The National Forest road needs are almost unique. The primary interest of those engaged in research is the wide, hard surfaced, main highway where the traffic and service requirements are very heavy. Attempts to get certain research organizations interested have been unsuccessful, not that the proposed plan in general was not endorsed - it has met with almost universal approval - but that their main interest is elsewhere and the work there required far exceeds the available time and money facilities. The Forest Service can do the required investigative work, although its progress will be comparatively slow. It is fitting that the Forest Service do the work since so far as known, the conception of road service and road design originated within the Service; naturally it is concerned with giving a thorough test.

This article brings this series to a close. The readers realize by now that a big job is before us. A start has been made. Even though only small, the start is a good one. The foundation has been laid. We will now build up from that foundation. Slowly but surely the necessary data will be collected. Very possibly not all the desired data can be secured - usually because of cost - but what is collected, will be valuable and so much gained.

In closing, it may be well to restate the objective of the investigations. The objective is the travel speed with safety and a reasonable amount of comfort obtainable from various combinations of the elements of standard. The data are desired because of the major objective of providing roads which will give the specified service at the least annual cost, all factors considered.

A RANGER'S GAME CENSUS REPORT

By J. C. Scharff, Malheur

In years past when called on for our Game Census report, we rangers usually got out our old diaries and notes of the game seen or heard of, predatory animals killed during the season, and our last year's report, and made our current report.

It has been my experience in the past while working with sheep that a sheepman sees more game in the mountains during the summer season than does the average ranger. This year on the Logan Prairie District we have prepared a form on note-book paper which we are sending out in our actual-use notebooks to every camptender. It calls for the number of deer, elk, coyotes, cats, and grouse seen during the season. The deer section is divided into three sections, bucks, does, and fawns; and the elk into three sections also, bulls, cows, and calves. Also there is a space for reporting the number of predatory animals killed on the forest.

We don't plan on this working 100% because there are some camptenders even yet that are hard to extract anything from. However, from our twenty-two sheep allotments we think we should get good reports from at least fifteen. Our local game warden indorses this plan and as quite a number of camptenders on the Logan Prairie District annually are personal friends of the game warden, I'm sure we will get some valuable data on which to base our 1928 report.

WHY THERE IS MORE FEED

A few days ago W. V. Turner of the Santa Rita Range Reserve met an official of the Minerals and Metals Corporation of Los Angeles for a conference in regard to their use for the hauling of ore of a road passing through two of the Santa Rita Range Reserve pastures. During the discussion he asked, "Why is there so much more grass on the ground, and why are the cattle I see along the road in these pastures in so much better condition than on all this other range I see of about the same elevation?" Mr. Turner explained briefly our basis of stocking conservatively with no more cattle than the range will carry; uniform distribution of stock by the proper location of salt grounds and watering places, in order to secure full utilization of the feed without overgrazing; and improvement of the grade by the use of purebred bulls. The really important and encouraging fact about the incident is that the contrast between the Range Reserve and the outside range as to the condition of both range and stock, is great enough to be particularly observed by a man who is not in the least interested in the livestock business.-District 3.

Service Bulletin

U.S. FOREST SERVICE
(Contents Confidential)

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THE MCNARY-MCSWEENEY BILL

By R. Y. Stuart.

The passage of the McNary-McSweeney forest research bill by the House on May 12, after its passage by the Senate is highly gratifying to all those who have so earnestly advocated Congressional sanction of a comprehensive plan for forest research. The measure now goes to the President for action; and, we hope, for approval by him.

This bill codifies and rounds out the existing legislative authority for forest research in the U. S. Department of Agriculture. It also carries authorizations for different classes of research, but no appropriations. It is therefore both a functional program of the kind of research which can and should be undertaken, and a fiscal program which will guide the Department of Agriculture, the Budget, and Congress in making annual appropriations for the Department. The bill constitutes congressional recognition and endorsement of a clear-cut program. It is an attempt to raise the sights on forest research requirements to something approaching national needs and to insure sustained development by setting up definite objectives.

I believe it is safe to say that no forest legislation defining a major forest policy has been so generally supported and urged both within and without Congress. While the successful outcome is attributable to many individuals and public-spirited organizations and to the energetic support given by the bill's sponsors, Senator McNary and Representative McSweeney, and other Congressmen, the effective work done originally by Earle H. Clapp in bringing together the basic material and in formulating so concisely the need for a more systematized and comprehensive program of forest research is especially worthy of mention. The beneficial results to forestry by Congressional authorization of the program will be far-reaching.

NATURAL AREAS

By G. A. Pearson, Southwestern For. Exp. Sta.

Readers of Kneipp's article on wilderness areas in the Service Bulletin of March 12 will recall that a somewhat different type of natural area is being advocated by research men, and some may not be clear as to what connection, if any, there is between the two. Both aim to preserve for posterity samples of unmodified nature, but for somewhat different purposes. The dominating idea in the wilderness area is aesthetic; in the researcher's "natural area" it is scientific. Foresters are probably less familiar with the latter type of area than with the former, and therefore a word of explanation is in order.

With the advance of forest management, research will find it desirable to refer constantly to the virgin forest. Not that the virgin forest should be accepted as a standard of accomplishment, for we should aim to excel nature; but a mature virgin stand reveals trends and ultimate developments which can not be seen in the forests of man's creation. Unless advance precautions are taken a time will come when all desirable readily accessible areas of virgin timber will have been logged. In order to guard against such a situation, typical areas should be selected in each forest type for the specific purpose of preserving samples of natural forest conditions. These areas should be closed to all forms of commercial use except possibly regulated grazing. Total exclusion of grazing would require fencing which, on account of the expense, is to be avoided unless essential to attaining the desired ends.

Natural forest types have their counterpart in forage types. Although regulated grazing aims to maintain a maximum density of soil cover, it does not insure the preservation of climax types. Accomplishment of this purpose calls for fencing against domestic livestock.

The size and location of natural areas will be governed more or less by local conditions. Forest areas should not usually be less than 160 acres nor need they exceed a section. Forage areas can be considerably smaller. Each forage and forest type should be represented by at least one natural area in each State in which National Forests are located. Areas should be sufficiently accessible to afford favorable conditions for research work.

According to present conceptions, the main difference between wilderness areas and natural areas set aside for scientific study is in size and location. A wilderness area, in order to fulfill its purpose, should cover at least a township, and it should be beyond the range of the conventional pleasure seeker. The natural area demanded by the silviculturist and ecologist need not be large and it should be reasonably accessible without being too much in the path of tourist travel. In so far as wilderness areas contain representative types of vegetation they may answer the requirements of research, but with the important exception that they will usually be too inaccessible to permit efficient utilization of time on the part of those engaged in research activities.

The objectives and the policies involved in establishing natural areas for research purposes are relatively simple. The mere fact that the units need not be large makes it possible, by the exercise of foresight, to avoid conflict with economic and recreational development. Research men are agreed as to the need for these areas, and as far as known to the writer, there has been no real objection on the part of administration. Selections have already been made in some of the Districts. The time is believed ripe for Service-wide action.

DO FEMALE ANTELOPES HAVE HORNS?

Mr. Barnes Replies to Mr. McCrorey.

To The Producer:

The March PRODUCER contains a communication from J. T. McCrorey, in which the statement is made, with reference to my article on antelopes in the January issue, that "I have never yet known a doe with horns." This, of course, does not prove anything, except the fact that Mr. McCrorey has missed something which is so well established as to admit of no argument.

But take heart, old-timer! No less a person than Audubon -- the greatest naturalist we have ever known -- was himself fooled on the antelope's horns. When Audubon was in the Far West, in 1820, local hunters told him that the antelopes shed their horns every year. He duly recorded this statement, with the remark that such a thing was impossible in an animal with a horn structure similar to that of a cow - i.e., a hard, spongy substructure, fastened tight to the head, over which grew a hard, bony covering. Such animals, he believed, could not shed their horns. In 1828, another naturalist, Canfield by name, called attention to this fact, which he said was unique, in that it apparently violated all zoological laws.

Prof. Spencer Baird, of the Smithsonian Institution, was the first authority to publish this fact in 1850; but it was not until 1855 that the Zoological Society of London, after careful investigations with antelopes in confinement, found Canfield's and Baird's statements true. This finding was published in the proceedings of the Zoological Society in February 1856.

If Mr. McCrorey will read Caton's "Antelope of North America," or the "Prong-Horned Antelope," Bulletin No. 1346 of the Department of Agriculture, or E. W. Nelson's wonderful work, "The Larger North American Mammals," he will find out a lot of things about the antelope of which he now seems to know very little. Mr. Nelson - our greatest American authority - says: "Both sexes have horns - those of the does being smaller and slenderer. One of the extraordinary peculiarities of this antelope is its habit of shedding its horns every year." Like Mr. Mc Crorey, Mr. Nelson has "seen antelopes by the thousand, from Texas to Montana," his first experiences dating back to 1882 in Arizona and New Mexico. He knows them at first hand. Every work in which the antelope is mentioned speaks of these two remarkable points - i.e., horn-shedding and horns on both sexes.

As for Mr. McCrorey's statement to the effect that "I have never ridden a horse that was swift enough to catch an antelope," I can only feel sorry for him and the plugs he rode. Down on the Arizona ranges we used to ride regular horses that "could catch anything that wore hair and ran on four legs." But, if he still doubts, here is one out of a number of authorities. Under date of August 14, 1805, Lewis and Clarke, the explorers, in their diaries mention that the Shoshone Indians - probably in eastern Wyoming - staged an antelope hunt, "in which they ran down many antelope on their ponies." I will agree that it took a good horse to turn the trick on a straight-away run, but, Mr. McCrorey to the contrary, it has been done over and over again by cowboys and others who rode real horses - myself among the number. - From "The Producer," April 1928.

WHY CHANGE FROM FOREST RANGER

By Elmer F. Reed, Uncompahgre.

I have tried to figure out just what advantages or benefits would accrue to the Service, the Ranger, or anyone else from changing the title Forest Ranger to that of Forester.

In some localities, it might eliminate confusion, especially where there are other kinds of Rangers, but nothing compared to the general confusion the change would occasion.

The title, Forest Ranger, is established. It is an honorable title. The field force who bear it have made it so. It will endure against all infringements and outlive any that it has infringed on. It is a good title, and naturally any good thing is likely to be counterfeited here and there. So far as its being nondescriptive of a Ranger's work, I would like to know what title would be better. It would require a title as long as a lariat to describe a Ranger's diversified activities. "Forester" wouldn't do it as well as "Grazer" on many districts. In fact, Forest Ranger will be hard to improve on. Certainly, "Forester" would be no improvement. It smacks too strongly of pavements, varnished tables, and swivel chairs.

It may be all right for the sake of logic, to have a Chief Forester, an Assistant Chief Forester, a Forester, a Division Forester, and so on down the line to the Supervisor who would be Forest Manager, but why class the Ranger amongst the Foresters? That isn't logical, is it? He couldn't get away with it, anyhow. About the first memorandum he got from his Forest Manager he would find himself addressed as District Forester. Even that wouldn't be so bad, if it were not for the dear public who wouldn't know who is who any more in the Forest Service.

Then there are the manuals, handbooks, civil service records, and what not to be revised and put into conformity with this change. All at considerable cost to the government. A new oath of office to be executed by each Ranger at his own expense, and all for what?

Apart from the business or economical side of the change there is, and ought to be, a sentimental side to this matter. It took men to make the title "Forest Ranger" worthy. And now it takes men to be worthy the title. Therefore, the Forest Ranger whose title has become a part of him, after years of developing it from its besmirched beginning to its present stage of respectability, should have enough sentimentality in him to value it as a treasure won. And, unless it be clearly shown that Service welfare demands this change, the title "Forest Ranger", should not be junked for any new or warmed-over title, no matter from whose high crown it falls; and every old time Ranger does, and rightfully does, protest this change as a repudiation of his efforts to put prestige and honor into the title he bears.

CONCERNING OUR CLERKS

In response to an inquiry from the D-4 Clerks as to what should be expected of a Forest Clerk in an administrative way, W. C. Ellis of the Fishlake Forest submitted the following:

"I believe a clerk should read the instructions pertaining to his work very carefully. He should not, however, try to remember everything but should remember where he can find out about any question.

"A clerk should always be alert to better methods of handling the work but this does not always mean easier methods. Easier methods may be at the expense of the Service. The clerk is the hub around which all the Forest's work must turn and he must remember that a wheel with a weak spoke is not so good. Therefore, it is very essential that all the Ranger Districts get the same administration at all times. Short cuts for the Service cannot, therefore, always be short-cuts for the clerk. During the field season on the Fishlake I plan to reach the office one-half hour before opening time in the mornings and come back for a short time after supper so that the Rangers can call in for information if they desire it.

"The clerk should believe in his position and its future. He should study ahead of his position. He can be of best service to the Ranger Districts and to the Forest if he understands the Supervisor's and the Rangers' viewpoints. He should handle the affairs of the Ranger Districts as he would wish them to be handled if he were out there. He should not let himself be satisfied with his present status.

"A clerk should be honest with himself and his position and never try to cover mistakes to his superiors. There is not so much crime in making a mistake as there is in covering it up after it is made. There is only one correct way to advance to the quality of work in a large office and that is by co-operation of efforts.

"A clerk should be unselfish and should not try to make himself larger by making others appear smaller, for, after all, a clerk is not any better than the work that leaves his office. Good work in a Forest Office is the result of the Forest personnel and not of any one person.

"A clerk should be tactful and prudent in his conversation and associations with other people. Especially should this be the case with subordinate helpers and he should never make insinuating remarks about his superiors to enlarge upon his own ability.

"A clerk should stand on his own principles and should not cater for the support of other people. He should be known by his own efforts.

"A clerk should be on duty always. He should stay with each job until it is correctly finished and should not rush for the sake of finishing as the time grows short.

"A clerk should give permittees credit for being honest and sincere in their opinions and he should not show evidence of despotism.

"A clerk should have a good system of his own for keeping all work up to date and should not adopt a method that would lead to 'What cannot be done by five o'clock today can wait until tomorrow.'

"A clerk should have initiative and ever be on the alert for new ideas of office detail which may simplify the office work of his Supervisor.

"A clerk should not pass non-recurrent work to the assistant clerk if he has time to do it himself. In other words, the clerk should inspire initiative for work by working. However, he should not take his time from more important work to do things which the assistant clerk can do as well as he.

"A clerk should have pride in the appearance of the office. A visit to the office in the evening after everyone has gone home usually tells the story."

MICHIGAN KIWANIS FOREST PLANTATION

By F. R. Johnson, D. 2.

One of the finest pieces of cooperation ever arranged between the Forest Service and an outside organization is now under way with the signing of an agreement by the District Forester and the Chairman of the Conservation Committee of the Michigan District Kiwanis International. The Kiwanians agree to provide funds for planting about 5,000 acres in the Michigan National Forest, and will deposit money in a cooperative fund at the rate of $1.94 per acre, which represents the actual cash outlay for the large 1926 planting project. This does not include the cost of the trees, forest officers' time, nor the depreciation on equipment and improvements.

The Forest Service agrees to furnish the trees, equipment and supervision, and any other expenses above the $1.94 per acre contributed. The Service further agrees to designate this area as The Michigan Kiwanis Forest Plantation and to mark it with suitable signs.

The Kiwanis Club is now raising the funds among its membership. Pledge cards have been distributed on which the individual member agrees to pay for one acre, five or ten, as the case may be, at the rate of $1.94. On the reverse side of the pledge card is a diagram which paints very optimistically the expected returns from the plantation.

The Flint Kiwanis Club has already subscribed for the planting of 1,000 acres and other towns are coming in at a rapid rate. The planting is to be done next fall, and at that time the organization expects to have a week-end camp and barbecue.

Mr. Harry B. Black, Chairman of the Conservation Committee of the Michigan Kiwanis, in replying to the District Forester's letter regarding this project gives the feeling of the Kiwanis Club:

"Your idea as to the real value of the plantation and my own very closely coincide. The incidental benefits greatly outweigh the actual plantation itself.

I have been casting around in my mind for sometime to find a means of dramatizing forest activities and this cooperative planting scheme seems to be filling the bill. I am inclined to think that within the next five or ten years that other organizations will bring the total of cooperative planting to somewhere in the neighborhood of 100,000 acres. I know that our idea has already sprouted in Hoo-Hoo and that the Rotary Clubs are considering some similar action. I confidentially expect that the Kiwanis Clubs alone will subscribe this year for double the amount required for five thousand acres which will mean a continuation of this work in 1929."

NAPOLEON ON FIRE PROTECTION

In 1808 Napoleon wrote the following letter to the prefect of a department in which there had been a number of fires:

"Monsieur le prefect.

I am informed that a number of fires have broken out in the department the administration of which I have confided to you.

You will please have the individuals convicted of having set them shot immediately.

Also if fires break out again I shall see to giving you a successor." - L. C. E.

WE FOUND THIS IN CALIFORNIA NEWS LETTER

"The woodpecker, broadly speaking, may be said to peck his holes to fit his acorns," Dr. William E. Ritter, famous zoologist asserts. "We find this through a comparison of holes bored by the birds in the valleys, where the oak acorns are small, and in the mountains, where the nuts are large. The same species of bird drills a small hole in the valleys in which to tuck his booty, and in the mountains he pecks a larger hole to fit the larger nut."

Not only has Dr. Ritter wrested this secret from the woodpeckers, but he has found how they learned to drill holes in the first place. His theory is that the birds at first tucked the nuts under cracks in bark. When all the available cracks were filled up, they began enlarging split places in trees that were too small to take nuts. Finally, he says, they took up the hole-boring idea with gusto, and now have become so proficient that they peck their nests out of the solid heart of oak trees.

MINIMUM REQUIREMENTS REPORT

Zon's "Timber Growing and Logging Practice in the Lake States," which was recently received from the printer, makes its bow as number 5 of the public requirements reports. The present status of this popular series of bulletins is as follows:

In Print:

"Timber Growing and Logging Practice in the California Pine Region." U.S.D.A. 1402. By S. B. Show.

"Timber Growing and Logging Practice in the Central Hardwood Region." U.S.D.A. 1491 .By C. R. Tillotson.

"Timber Growing and Logging Practice in the Douglas Fir Region." U.S.D.A. 1493. By T. T. Munger.

"Timber Growing and Logging Practice in the Western White Pine and Larch-Fir Forests of the Northern Rocky Mountains." U.S.D.A. 1494. By Elers Koch and R. N. Cunningham.

"Timber Growing and Logging Practice in the Lake States." U.S.D.A. 1496. By R. Zon.

Manuscripts submitted:

"Timber Growing and Logging and Turpentining Practices in the Southern Pine Region." By R. D. Forbes.

"Timber Growing and Logging Practice in the Northeast. By S. T. Dana.

"Timber Growing and Logging Practice in the Lodgepole Pine Region." By M. W. Thompson.

Manuscripts in hands of authors:

"Timber Growing and Logging Practice in the Southern Appalachian Region." By E. H. Frothingham.

"Timber Growing and Logging Practice in the Western Yellow Pine Region - South." By R. E. Marsh.

"Timber Growing and Logging Practice in the Western Yellow Pine Region - North." By R. H. Weidman.

It is the plan to give these bulletins a very wide distribution and to place them in the hands of timberland owners throughout the country. - F.H.E.

NOT SO GOOD

By Emma H. Morton, D.6.

Service Bulletin readers who have resented the highly colored advertising of the Ranger Correspondence schools will be interested in this latest "proof of the pudding" gleaned from information compiled by the Civil Service Commission.

Of the 337 correspondence school embryo rangers who took the 1927 examinations, only 18 passed. One gains the impression from the Commission's statement that doubtless many other correspondence men lived so far away from the places where examinations were held that they did not attempt to go to places of examination.

In addition to the 319 "school" applicants who failed to pass, there were 69 competitors who did not answer the question regarding special training; all of these 69 failed to pass.

It was found that 25 per cent of the total number of 1,081 men who took the examination (we don't know the total number who passed) did not reside in the States in which they took the examination, which cuts down their chances for appointment to a minimum in view of the law requiring that Forest Rangers shall, where practicable, be selected from among qualified citizens of the State in which the Forest is situated. No doubt the ranger schools failed to stress this point in their advertisements.

YOUR RETIREMENT FUND

Report has been forwarded to the Forester showing the amount of retirement deductions made from each D-3 member's salary, and interest thereon, computed up to and including June 30, 1927. Total deductions from salaries of employees on the rolls on that date amount to $62,966.76; accumulated interest, $7,046.89; total $70,013.65.

POISON IVY AND POISON OAK TREATMENT

For some time the Forest Service has been endeavoring to secure some means of inoculation against poison ivy and poison oak. The Service is without authority to make expenditures in advance of injury; neither can the Compensation Commission handle prevention measures. A formula for inoculation has been secured from the Public Health Service, the expense connected with the treatment to be borne by the employee himself. In his letter of March 2 to the Forester the Surgeon General of the Public Health Service states:

"There is no treatment which will certainly prevent poisoning in susceptible individuals. Dr. Jay Frank Schamberg and others have, however, employed for several years a method which in skilled hands is useful. I think that susceptible Forest Service employees working in exposed regions should, wherever practicable, place themselves in the hands of a physician for the course of treatment which, unlike vaccination against typhoid fever, can not be quickly accomplished by a few treatments but requires the administration of a medicine, when taken by mouth, throughout the poison ivy or poison oak season.

"For individuals who desire to undertake self medication I venture with some hesitation to outline the method described by Dr. Schamberg in his article 'Desensitization of Persons Against Ivy Poison' as published in the Journal of the American Medical Association, 73:1213, 1919. If this information is conveyed by you to selected field employees their attention should be particularly invited to the minute initial doses and they should be warned to watch for signs of intolerance to the drug, that might appear in very susceptible persons and thus defeat the very end designed.

To prevent Poison Ivy poisoning, secure from a reputable drug store the following:

R	C.c
Alcoholic tincture rhus toxicodendron (representing 25% fresh leaves)	1
Rectified spirit	5
Syrup of orange, sufficient to make	100

Take as follows, each dose in half a glass of water after meals:

Day	Morning Drops	Noon Drops	Night Drops
1st	1	2	3
2nd	4	5	6
3rd	7	8	9
4th	10	11	12
5th	13	14	15
6th	16	17	18
7th	19	20	21

- Eastern District Digest.

THE OLYMPIC BOASTS A MODERN SAMUEL PEPYS

The following excerpt from the diary of one of the Olympic's most dignified Rangers when, apparently, in a frivolous mood, has a Pepysian flavor:- "Friday, Jan. 13, 1928.

7:30 A.M. Up betimes and by gasoline chased to the lumber camps of Milord Webb, where all the morning J. Sandstrom (a huge Norseman) and I did divide and designate the great logs along the Land Lines. In the afternoon to viewing with great Disgust the havoc wrought by the winter winds to my Seed

Trees. In the evening home mighty tired, albeit. After dinner on a great roast of Canine Salmon (a rare fish), my wife and I did drive to the home of Milord Bryan (a Government official) and to the basket ball game and dance. Home at midnight tireder than ever, - and so to bed." - District 6.

FOREST NURSERIES IN GERMANY

The results of a recent forest planting census in Germany reveal the fact that more than 160 commercial forest nurseries are doing a thriving business in that country. These enterprises make use of a total land area of 4,200 acres, of which over 3,200 acres lie near Halstenbek in Schleswig-Holstein, where 23 of the world's largest forest nurseries are located. This group of nurseries produced 65 per cent of all the coniferous trees and 92 per cent of all the hardwood trees sold in Germany in 1925, when the respective totals were 1,070,000,000 and 180,000,000. - Translated from the Swedish Forestry Journal "Skogen" by Prof. George S. Perry of the Pa. State Forest School, Mont Alto.

TURKEYS

Mr. Stokley Ligon of the State Game Department, shipped two turkey gobblers from the Datil Forest March 16 to be planted on the Sandia Game Refuge. A recent count of those liberated a year ago shows they all survived and are doing nicely.

- - -

The turkeys on the Manzano refuge seem to have come through fine, and, at the present time, a number of them are being fed. Mrs. Joe McKinley is feeding a fine flock and says, "If I ever hear of a hunter bothering these turkeys, it will just be too bad for the hunter." - From Manzano Ranger.

RESEARCH - YOU TELL HIM

U. S. Forest Service,
Washington, D. C.

Dear Sirs:

I have read with much interest Farmers' Bulletin 622, "Basket Willow Culture."

I live three miles west of Birmingham, a little Tennessee river town. I am a farmer and I have fought willows ever since I have been here. Heaven knows the willows here haven't any diseases. I've prayed that they might have.

I don't suppose ours are basket willows but if ever there was an ideal place for a willow holt it's right here on Buck Horn Creek where I live -- and a furniture factory! Oh! wouldn't we poor old tobacco farmers that are left from the Detroit exodus simply shout if we were given the opportunity to work in a factory! No, none of us could finance the project but we'd be mighty glad to sell our willowy land and turn into hired hands.

Now, haven't you a Forest Service man in this section of country who would come and look over this land. If we have a recommendation from the Forest Service perhaps we might get those Lloyd baby buggy people to put up a branch factory here!

Do please get interested in it and don't feel compelled to pour cold water on my enthusiasm. I need some hopes occasionally even if they do chance to be false. When one grubs willow sprouts all day he needs a few pipe dreams when he sits down to rest.

Yours truly,

ARE WE MAKING PROGRESS?

The "Lone Cedar", a weekly newspaper formerly published in Kanab, Utah, and now defunct, carries an item in the issue of August 20, 1910 which concludes: "John R. Findlay sustained all the local Forest officials without being shot." Write your own moral. -- H.M.S., D. 4 Bulletin.

Service Bulletin

U.S. FOREST SERVICE
(Contents Confidential)

VOL. XII No. 23 WASHINGTON, D. C. JUNE 4, 1928.

A CHANCE FOR CONSTRUCTIVE SUGGESTIONS

By L. C. Pratt, Chugach.

It was no single act of tyranny or despotism that caused the Colonies to declare their independence and throw off the yoke of a despotic king. Rather, it was "a long train of abuses and usurpations" the cumulative effect of which was beyond the capacity of the Colonists to bear. " . . . mankind are more disposed to suffer, while evils are sufferable, than to right themselves by abolishing the forms to which they are accustomed."

The point has been reached where the evils connected with voucher requirements are no longer sufferable. Protests are going up from every quarter, and dissatisfaction is rife. Run through the file of Service Bulletins or various District Bulletins for the past year and you will find that in practically every issue there is one or more protest against the terrifying requirements imposed upon us in the preparation of vouchers.

The work involved in making a purchase exceeding $50 is positively sickening. Let me cite just one incident, and it is by no means an exceptional one: The Chugach needed a small electric bench grinder. We selected about what we wanted from a catalog, sent a full description of the machine to the purchasing agent in Seattle, and asked him to buy the equipment and ship it to us. The machine was purchased at a direct cost of $80.70. But listen: To complete this transaction involved the writing of eight separate letters; the sending of two telegrams; the making up and distributing to dealers of four bid forms; the checking and comparison of the completed bids; the preparation of a purchase order and transmission to successful bidder; the preparation of Form 1034 voucher, Form 1036 Abstract of Agreement, Form 79a and 79b, Form 546, Form 331, four copies of a Government bill of lading, and the Lord only knows what else. Our file copy of this voucher has attached to it exactly 22 sheets of paper, each representing the time and efforts of one or more persons.

Some of these fiscal requirements appear, at least to the man in the field, to be utterly ridiculous. What earthly purpose is served by taking a Form 1034 out of the typewriter, turning it hind side before, and inserting the words "oral agreement"? When we submit a Form 1036 Abstract of Agreement on which it is clearly shown that the bid was awarded to the lowest bidder, why then should we be compelled in addition to submit an autographed letter giving the same information? Why can't one printed certificate on the voucher be made to answer all purposes, instead of plastering rubber stamp certificates all over the document? If the certifying officer certifies that he has expended the money according to the law and the gospel, that should end the matter.

If these trivial, unimportant, irritating requirements are actually necessary, if they honestly serve some necessary and useful purpose, than I suppose we will have to stand for them. But unless they do serve some really good purpose, then in the name of common-sense and efficiency, let them be abolished and let us get back to a sane and businesslike procedure.

WHAT WOULD YOU DO?

By C. E. Rachford, Washington.

Suppose you had a tract of run-down, poor quality meadow land and approximately 6 acres of scab pasture land on which you were expected to graze a couple of saddle horses and a milk cow for the summer season and found the capacity wholly insufficient, what would you do? Of course, your answer would be "It would depend entirely upon the need for more pasture and whether this need could be more economically met by purchase of hay, grain, and pasture or produced by improvement of the land, the possibilities of improvement, and the facilities at hand to make the improvement."

Suppose again you were a cowman owning a ranch adjacent to the National Forest, with some land of the character described, and found your total supply of forage was short by just one month's feed in the spring of the year before the grazing season opened, what would you do?

An investigative mind, foresight, much energy, and use of an abundant water supply enabled Ranger Spencer of the Gunnison to answer both of these questions. Let's have him tell the story in his own words:

"The results on the irrigated pasture land at the Cement Creek Ranger Station were secured by the use of the Morton Pasture Mixture, a mixture of pasture grasses developed by Professor Morton of the Extension Service, Colorado Agricultural College, Fort Collins, Colo. This pasture mixture is composed of brome, orchard, timothy, meadow fescue, alsike and yellow sweet clover, in the proportion, as I remember, of ten pounds each for the grasses and five pounds each for the legumes, per acre. Professor Morton recommends sowing 50 pounds of the mixture per acre, in a well prepared seed bed. All large Colorado seed houses handle the mixture, already mixed, under the trade name of Morton's Pasture Mixture.

"In discussing the pasture and its use, it will be necessary to consider the entire pasture and meadow capacity of the Ranger Station. This consists of some 20 acres used for meadow land, and 5.86 acres (surveyed) used only for pasture, which is composed of the Morton Pasture Mixture 3¼ acres on one end, and straight timothy (into which alsike later found its way through manure, etc.) 2.61 acres. The meadow area of some 20 acres is used in connection with the 5.86 acres from the time the feed starts in the spring -- about May 10 -- until June 1, when the meadow is closed and the 5.86 acres used exclusively until the hay is harvested and stacked, about September 15; after which both meadow and pasture area are used in common until pasturage is covered with snow.

"In 1922 the 20 acres now used for meadow had been neglected previously until that season they produced insufficient pasturage for the three saddle horses and one milk cow I had. It was necessary to feed over a ton of grain during the summer season to keep them up in condition. Ditches were insufficient and filled up partially, but as large a flow of water as possible was kept coming, divided with a co-owner in the ditch, and the old pasture brought back as much as possible. In the fall the 2.61 acres to be sown to straight timothy the following season was thoroughly soaked up and the water left running until it froze up.

"The spring of 1923 the ditch was enlarged and cleaned out and 100 pounds of timothy seed purchased; 60 pounds sown on the thin burned-out spots of the old pasture and 40 pounds on the 2.61 acres of new ground. It should be explained here that the 5.86 acres now used for summer pasture is absolutely untillable, being covered for the most part with numerous rocks exposed to the surface, and a number sticking above the surface from a few inches to several feet. Among these rocks was growing a generous stand of sagebrush.

"The timothy sowing was done on the old pasture in June and on the new area in July. No removal of brush and rock, or scratching of the soil whatever, was done. The seed was sown and the areas kept thoroughly wet on all parts until germination took place -- about ten days to two weeks -- after which the areas were irrigated approximately every other day until the new plants were well rooted, and for the remainder of the season the ground was never allowed to dry out thoroughly. Excellent stands were secured on both areas.

"In the fall of 1923 about 2½ acres more of the new ground was thoroughly irrigated and soaked up in preparation for planting in 1924.

"During the winter of 1923 and 1924 I cooperated with the Extension Service of the Colorado Agricultural College as a 'go between' with the dairymen and stockmen around Gunnison. It was at this time that C. D. Smith, Extension Agent At Large, brought to my attention the maximum results to be secured with the Morton Pasture Mixture, claiming that when sown on a well prepared seed bed of good soil and properly cared for, it would support two cows per acre throughout the grazing season. I described my untillable waste land to Mr. Smith and proposed trying the Mixture on it, but he solemnly assured me that I could not hope for success unless I had a well prepared seed bed of good soil. However, being somewhat bull-headed and enamoured with the maximum results to be secured, 200 pounds of the Morton Mixture was purchased (the area had not been measured at that time and I judged it at around 4 acres) and sown in June. The procedure described with the timothy seed in irrigation was followed, and as might be expected with 80 pounds of seed per acre it came up thick as hair on a dog's back -- it literally covered the rocks, where moisture could get at the seed. No grazing was allowed on the area until fall - the Extension Service recommending no grazing for the first season on account of stock pulling up the young plants. It seems, however, that this feature is not as important on unprepared ground as it would be in the loose soil of prepared seed beds.

"In the fall of 1924 the ¾ acre of the 5.86 acre pasture area under the ditch, still unplanted, was given the fall irrigation and planted to 50 pounds of the Mixture in June, 1925. The prescribed form of irrigation followed and a successful stand was secured. A five acre corner of the old 20 acre pasture was fenced off in June 1925 and several tons of hay cut for saddle and work horse use. The balance, together with the new area was used for pasturing 3 of my own saddle horses for 5 months and 5 of the neighbors' horses for 30 days, and 7 head of Geological Survey horses for a week -- a total of 22 animal months.

"1926 the entire 20 acres now used for hay land was closed to grazing and the 5.86 acres of new pasture furnished approximately 15 animal months grazing, at an estimated utilization of 50 per cent. About 20 tons of excellent hay was harvested on the old 20 acre area, and fed 11 head of ranger horses on the hay-accessible-at-all-times basis, until March 1, 1927, from November, 1926, in addition to having two tons in the hay mow for spring feeding.

"1927 the 5.86 pasture area furnished pasturage for my two horses and a cow throughout the season, 12 head of the Rachford party horses 5 days, and 15 animal days use for Geological Survey horses. The utilization of capacity is estimated, with 16 animal months, at slightly over 50 per cent. Much of the old feed will have to be burned off to provide access to the new grass next spring. It is planned to divide the timothy and Morton Pasture Mixture areas by a short fence, rotate to capacity, and keep an accurate record of use for 1928. There is no question that the Morton Mixture area will provide by far the greater volume of feed, in addition to a much more palatable mixture, as is evidenced by observation of the manner in which stock stick to the Mixture area by preference."

PLUS-FOURS

By LoCoed Silas, Holy Cross

Ye gods and little fishes, Ed! What's all this dope that I've just read? Plus-fours? No, Ed, I'm damned if I e'er give those bally things a try. For Service ends I'd wear a shroud, to shield or flaunt its creed aloud, wear skirts or paint or anything; but those - oh death, where is thy sting!

A few years back I took a chance on uniforms and choke-bore pants, discarded corduroys and boots, and Levi Strauss and other suits, because, as you must know, our chief was mild but firm in his belief, that we should all appear to be alike, at least, in livery.

But those plus-fours - why dang my hide, how could a rough, old ranger ride among the waddies on the range and not their confidence estrange; or be hard-boiled with lumber jacks, when duty called him to their shacks, if he but wore a pair of those, completed by some fancy hose?

I'm not opposed to (get me right) Plus-fours in boudoirs dim at night, and sometimes even in the day, they're fit for men with time to play; but in the field - if I should ride on my old bronc, plus-fours astride, I'm sure my users all would say, there comes a dude from I-o-wa.

Now Ed, back up, don't force the play, just have a heart another day; a few more years and we old boys will have passed on to other joys, and younger bloods from forest schools can be taught how, by simple rules, and learn to wear plus-fours and ride, without a loss of caste or pride.

So all you chaps in Washington, and my old chief in District One, can wear plus-fours, just as you please, and show your pretty, dimpled knees; but I herewith decline with thanks, to thus reveal my skinny shanks; or brave the pleasure of my friends, who dwell beyond where range-land ends.

THANK YOU

Recently the editor wrote letters to all Districts, Experiment Stations, and the Madison Laboratory asking for a round-table discussion of the Bulletin. We have received a generous response and wish to extend this blanket thanks for the interest shown. - H.R.K.

"COOPERATIVE FIRE FIGHTERS"

By R. Thomas Carter, Mount Hood.

The Mount Hood National Forest has developed an extremely valuable third line of defense in the fire fighting game. This consists of organizing local communities into cooperative fire fighting Units. Such Units have been organized and given some training in map reading, compass work, and modern fire fighting methods. Approximately 300 men have been thus organized in different communities surrounding the Mount Hood. These Units are made up of local men who have become interested in the protection of the Forest. Some are in business while others are farmers or ranchers, etc. These men are organized into Units with one of their number designated as fire-chief. Other positions in the unit are assistant fire-chief, foremen, camp superintendent, straw-bosses, employment agent, emergency lookouts, and laborers. These men are trained for the position to which they are assigned the same as are our short term men.

We try to train our short term men in the best manner possible so that they will do the right thing at the right time. If they were not thus instructed, they would be very apt to overlook some important points. After we have satisfactorily trained some of our men, it frequently happens that they accept some other job, and we lose them. However, in many cases the man has found employment near the Forest and we can use him in our cooperative Unit where his previous training is of great value to the organization.

There is one big advantage in having trained cooperative Units that is worth mentioning. Most of these men have year-long positions near the Forest and have made arrangements with their employers to get away at a moment's notice. Thus there will be but few changes in the personnel and the Unit will be of a more or less permanent nature.

There are in practically every settlement some men who are interested in the protection of the nearby Forest; these men are willing to cooperate when asked. It is then quite easy to organize a Unit that you can train. The first work, of course, in the organization of these units is to "sell the idea" to the men. This is usually done by first selling the idea to some one who is a leader in the community and who in turn "talks it up" among his neighbors and gets them interested. Our Corbett Unit is a good example of this method of procedure. The idea was first sold to a Mr. Evans who is a business man in the community. He talked it over with others there and pointed out the value of such an organization to the community. He got a number of men sufficiently interested in the idea that they were willing to attend a meeting to go into the matter more thoroughly. A meeting was arranged with the Forest officer, the Unit was organized and arrangements made for training the men. The training of these Units thus far has been without cost to the Service except traveling expenses of the Forest officer. These men seem glad to get the training in reading maps and the use of the compass and in modern methods of fighting fire. This training is done at the convenience of the cooperators, at night, on Sundays, or holidays.

After a Unit has been organized, the Ranger furnishes the Dispatcher a detailed plan of organization of the Unit, listing by name, address and telephone number, overhead, fire fighters, transportation men, tools and food and location, bedding and mess outfits, etc.

The Mount Hood is very proud of the work done by these cooperative Units during the short period of their existence in handling fires on which they have been called. An example of their work and accomplishments follows:-

During the days of the big fires on the Columbia Forest in 1927, the air was thick with smoke and firebrands. Many of these brands were blown across the Columbia River onto the Mount Hood. An unlucky snag received one of these marauding firebrands and was set on fire. The fire passed from one snag to another and soon a large fire was raging rapidly up the hill through a burn. Before fire fighters could fall the snags and put out the spot fires from it, the fire was off with a cloud of smoke.

The call for help came to the Dispatcher who referred to the list of cooperative Units. The nearest Unit was the Crag Rats in Hood River 18 miles away. A call went out to them and in just about one hour, 27 trained men were on the fire and ready for action. They were assigned to the east side of the fire and they held their line like veterans. These men were not afraid to work and they went right after it to get it out. At that time, there were no time keepers, camp superintendents, or gas pumper men available from our regular force, so these positions were taken over by men listed in the Unit organization plan for such positions. There was no delay in functioning. The effective, hard work and quick arrival of the Crag Rats Unit unquestionably prevented this fire from becoming a very large one.

We do not expect the Unit Cooperators to stay on all fires until they are out, but they do take care of the first great need-- that of hitting the fires hard when they first start. By that time then, we usually can move in when needed. The help of these units ordinarily makes it unnecessary for us to call our regular force and construction crews away from going fires, and in this way we are in a better position to handle peak loads. By quick action, these Units will prevent small fires from becoming large ones.

The work of these Units has a definite value, though sometimes subtle, in relation to our Public Relations problems. The publicity and the write-ups the newspapers give these Units help to keep the public informed of the amount of interest taken by outsiders in the protection of the Forest, and please the members of the local Units; the Units feel that they have a real interest in the Forest which they never had before.

NORTH CAROLINA FORESTRY DEPARTMENT BEAUTIFIES LOOKOUT TOWERS

"After having constructed several lookout towers during the past year, we have found that the educational value of such towers is almost equal to their value as a medium of reducing the number of fires started and the areas burned. With this in mind, we have beautified these tower sites in order that they may be more inviting to the public and have found that funds expended in such work is a very good investment.

"Wherever possible, towers are located near main highways. A good road is constructed to it and a sign is placed at the entrance of this road inviting the public to use the tower and tower site for recreational purposes. A circular plot is laid out surrounding the tower, posts are set at regular intervals, painted white with a red base. Back of each of these posts in the longleaf pine belt, even-aged longleaf pines are set out. The circle itself is plowed, fertilized, and planted to carpet grass. The area within the tower proper is covered with clean white sand, and a register built therein which when opened contains fire signs and pamphlets to be taken by those so desiring and on the lid of this register a book is found in which all guests are asked to register.

"A circular road is constructed around the seeded plot and tables built in the timber. These tables are for the use of picnickers, built of substantial material and painted.

"The site is cleared of inflammable material, trees trimmed up, and suitable parking space provided to care for the parking of many cars. Metal cans are provided for depositing garbage, paper, cans, etc., to keep the site clean. A well is drilled to provide the public with water and lavatories are built in the extreme rear.

"The lookout man is instructed to explain the work to all visitors and remains on duty on Sundays, as this is the day the largest crowds visit the site." -W.C.McCormick, Asst. State Forester.

JOHN MCLAREN RETURNS

Those who know John McLaren of District 1 will be glad to learn that he has recovered from the very serious and dangerous operation on his eye and is back in harness although for the present it is a light harness.

In response to a letter from Mr. Headley "Mac" described briefly the gradual losing of the sight of one eye and the delicate major operation at Mayo Brothers which has fully restored it. His many friends will be delighted, and "Mac" is to be congratulated on the successful outcome of his severe trial. - H.R.K.

LEAVING A MARK

By E. N. Munns, Washington.

Upon reading a review in the Journal of Forestry of the work of a Swedish forester, one was tempted to turn the familiar lines:

Full many a flower is born to blush unseen
And waste its sweetness on the desert air.
into a frivolous
Full many a forester gets lost in routine
And stultifies talents on the organization
machine.

Every forester, dirt and otherwise, should read Baldwin's review of Stor Noorland page 893 of the November Journal of Forestry, not only because it is good reading and interesting, but because it contains germs of ideas lying latent in many minds, and because it should stimulate one, even as does the advent of a New Year, to resolve to do something.

It is true, as Baldwin points out, that one of the troubles with American forest practice is that our personnel is unstable. Few indeed are the men who, entering forest work in 1912 as Ronge did, are still on the same Forest. Indeed, one need not go back so far, for a hasty check of the 1920 crop of foresters shows relatively few who are now working in the same locality in which they started. Because of this instability of personnel - due almost entirely to the rapid strides America is making in putting forestry into practice on a large scale - it has not been possible for many foresters to leave definite imprints upon a forest unit or to develop a silvicultural method upon which a management policy may be predicated. Some have made plans which others have followed, some have started work which others have carried forward. It has been given to but few to have been able to see real progress in work accomplished. Unfortunately, for the woods perhaps, the necessity of developing camp grounds, handling special uses, installing watering places, building roads, suppressing fires, counting sheep, and doing other myriads of duties, has militated against putting into effect many ideas, plans, hopes, and desires.

But - the old adage holds: One does what one likes to do. If one really has the will and that inner urge to determine whether release cuttings will solve the weed-tree problem, if reproduction following cutting is better than advanced growth, if thinnings are really necessary and if so what kind, if grazing really is responsible for the lack of reproduction, if fire really reduces the growth rate, and if a dozen other things as well, then one will do those things in addition to following out the program of "the organization machine." It may well be that unlike Ronge one could not carry out such a program on a whole ranger district, on a township, a section or even a 40, but a series of representative areas carefully laid out, carefully tended, carefully watched and above all carefully recorded with a check area as a guide and yardstick, will prove a surprise to even the most Bolshevik of foresters in Lands, Operation or even in Management. In such wise, the troubles due to a shifting personnel will be minimized for the next man can carry on where the first left off.

But, to carry out such a plan requires more than just the urge while comfortably reading the Service Bulletin on a stormy night. It requires that divine spark of faith in the job, in the work, in the future. It requires the torch of ambition and the flame of enthusiasm if determination is to be kindled to that point where one will accomplish on the ground what one holds in one's dreams.

One wonders just how many foresters will leave their marks in the woods! By their works we shall know them!

NEW SECTION OF SOCIETY ORGANIZED

At a meeting held in Jacksonville early in April the Southeastern Section of the Society of American Foresters was organized and held an election of officers.

Lenthall Wyman of the Southern Forest Experiment Station was chosen Chairman, Capt. I. F. Eldredge of Fargo, Georgia, was chosen Vice-Chairman, and S. J. Hall of Jacksonville was chosen Secretary-Treasurer.

SPEED WAGONS

The San Bernardino Forest has a new Speedwagon that is said to be the last word in fire fighting equipment. This is a 2-ton Reo which carries 40 axes, 40 brush hooks, portable gasoline pump with 3,000 feet of hose, 75 shovels, 3 cross-cut saws, 2-8 lb. sledges and wedges, 4 back pack pumps, foot power grinder, 2 cant hooks, 2 back-firing torches, 2 stoves, 2 tables, 1 oven, combination cooking and feeding outfit for 300 men, emergency rations, knapsacks, 150 canteens, 20 lanterns, 40 blankets, 5 gallons each of gasoline, engine oil and water for emergency use, and a fire siren that you can hear a mile. Oh, boy, how they do travel! - D. 5 News Letter.

THEN AND NOW

Not so many years ago, we bought handmade boots for $6.00, a pair of chaps for $8.00 and a full stamped saddle for $35.00. Them days stewed prunes and sourdough bread were standard rations and cows with calves sold for $10.00 a head if you could find a buyer.

Today boots cost $20.00, chaps $25.00 and a saddle $95.00. We want breakfast food and preserves to chew with our gold teeth, while a cow and a calf brings $60.00 and you don't have to hunt a buyer, but good "licker" is hard to get and danged expensive. (Tonto Bulletin) D. 3 Bulletin.

FOR REMEMBRANCE

By L. C. Everard, Washington.

As the wreath that's laid
On the unknown's grave
Is a tribute paid
All true and brave
Who died that we might hope;

So the flowers spread
on our Stanley's bed
Beyond Potomac's shore
Are as prayers said
For nineteen dead
Of the Forest Service corps

Charles E. Simpson
Clark B. Waterhouse
Herbert H. Harvey
Roy Muncaster
Horace B. Quivey
Stanley R. Augspurger
Donald R. Frazier
Bert Lewis
Cosmer M. Leveaux

John L. Mooney
Hubert C. Williams
Eugene R. McGlaughlin
Ward Norris Woodward
Errol D. Crittenden
Marcy M. Meaden
Harry A. Chamberlain
Thomas V. Keefe
Homer S. Youngs

Ray L. Greathouse

Service Bulletin

U.S. FOREST SERVICE
(Contents Confidential)

VOL. XII NO. 24 WASHINGTON, D. C. JUNE 11, 1928.

WORDS OR WORKS?

By L. F. Kneipp, Washington.

For the past ten years members of the Forest Service have toyed with the abstract theory of an organization of which each and every member was a self-energizing, self-starting, and self-directing unit, forging resistlessly ahead with singleness and continuity of purpose toward self-established standards of forestry far surpassing the highest thus far attained. The fact that history records few examples of such a type of organization enduring over any considerable period of time has never been recognized as a discouragement; success was merely a matter of hitting upon the correct formula which has been sought for with all the fervor that marked the search for the Holy Grail.

This conception differs, of course, from the old principle that frequently has yielded rather strikingly successful results - that of a few men possessing outstanding qualities of vision, leadership, and the capacity to state their objectives and methods of attainment in clear, understandable language, periodically developing new objectives, methods, and processes, clearly pictured, understandable, and obviously desirable, and so guiding the day-to-day performance of duties that all but the manifestly unfit find it practicable to meet the new requirements in ways that not only contribute to the organization's record of accomplishment, but give each individual a sense of personal satisfaction and a feeling of pride in membership in a group whose organized and directed effort yields so much greater returns than its members as individuals could achieve. But that is not democracy.

So an alternative has been sought; the suggestion has been made that new standards of individual capacity for constructive thought along technical lines must be set; the best technical minds must be determined and identified so that they may be afforded the fullest and freest play for their abilities and energies. So to that end it is proposed to hold examinations whereby men may demonstrate the progress they have made in the technical knowledge of forestry.

But to the pragmatically minded the query instantly occurs: Why an examination? Is faith more important than works? Is unapplied knowledge more important than applied knowledge? Is there any man, or woman, in the Forest Service who does not have within their particular sphere and assignment unlimited opportunity to demonstrate by concrete results such gains as they have made in technical knowledge and constructive thought? To all these queries the apparent answer is negative. And if it is a correct answer the question arises: Why an examination?

After all, we each receive our meager share of the taxpayer's dollar, not for our knowledge but for the results secured. Primarily we are employed to promote a more abundant and more usable growth of timber upon the lands dedicated to forest production; a forage cover of greater density and palatability; a greater stability of streamflow; a wiser and more equitable and more economic use of forest products; a truer understanding and appreciation in the public mind of the place of forestry in the nation's social and industrial economy. In the final analysis, our success or failure is determied, not by how well we talk or write about such purposes but by how well we accomplish them. So why not short-cut our procedure by adopting at the beginning what we know will be the ultimate test? Instead of examining a man to determine how much he knows, how well qualified he is, why not, instead, examine his results - let him say it with works rather than words?

Any experienced inspecting officer is well aware of the deceptiveness of appearances. Everyone can recall men whom they have met who called each tree and shrub by its specific name, who discussed with apparent understanding and intelligence every approved principle of forest management or range management, whose plans left little to question, whose understanding of policies and practices seemed complete, and whose work was rotten. They also can recall other men whose verbal or written discussions of technical subjects or policies were most unimpressive and disappointing, but whose fire organization, timber management, range management, special uses, trails, improvements, public relations, etc., were conspicuously excellent.

Every member of the Forest Service could and should add steadily to his store of technical knowledge; must add to it if he does not want the organization to move ahead and leave him standing forlorn and alone. But the true measure of what he has learned does not necessarily lie in the facility with which he can carry on a technical discussion or answer technical questions, or write a technical thesis, but in the actual application of what he has learned to the job for which he is responsible. Jobs so restrictive that they do not afford a man reasonable opportunity to display his technical attainments and abilities; jobs which afford so inadequate a field for complete self-expression that the incumbent, as a means of demonstrating that he has the goods, must, as a last resort, ask permission to take an examination to show he knows his stuff, are few and far between in the Forest Service.

The most convincing proof of a person's ability to promote better forest practice, better range management, better economic utilization of forest products, better public relations, is the actual promotion of them. So again, let the aspirant for higher honors say it with works rather than words. Let's not ask Colonel Lindbergh to prove by a thesis his ability to fly to Paris.

AY! TEAR OUR TATTERED ENSIGN DOWN?

By S. E. Doering, Superior.

The word "range", if I am rightly informed, is applicable to a stretch of country bearing trees, grass, shrubs, water, etc. A barren land, or waste, is usually termed a desert.

The word "Ranger" is evidently a coinage from the word range, and is used to indicate one who travels a range--looks after its welfare under some preconceived plan involving a purposeful outcome advantageous to society. The word "Ranger" used alone does not make full sense since there are Forest Rangers, State Rangers, Park Rangers, and Texas Rangers. The word Ranger indicates immediately that he is one who travels a given region, but it takes a preceding word to establish the branch with which he is associated.

The four ranger titles may be confusing to a few, but only a few--most people find out. If we should be careful to always use our full title there is little chance that it may be misunderstood since the preceding word "Forest" makes it stand out plainly--the title could hardly be more timely, nor be any more explicit and descriptive of the work in which we engage.

We, the Forest Rangers, have a good smattering of real forestry, but also an extensive smattering in many other trades--we are jacks-of-all-trades. Let the boys who are training intensively for forestry--silviculture--alone have the title "Forester", it will fit them and immediately define their occupation and position.

EXTRACTS FROM DISTRICT FORESTER MORRELL'S CIRCULAR TO SUPERVISORS OF FEBRUARY 28, 1928.

Average Annual
Burned Area in Per Cents
D 1 Forests

	'10 to '14,inc.	'15 to '19,inc.	'20 to '26,inc.
Absaroka	0.11%	0.06%	0.00%
Beartooth	0.04	0.05	0.00
Beaverhead	0.16	0.06	0.00
Custer	0.14	0.08	0.00
Deerlodge	0.13	0.17	0.02
Gallatin	0.10	0.05	0.00
Helena	0.25	0.50	0.02
Jefferson	0.37	0.24	0.03
Madison	0.01	0.14	0.00
Bitterroot	0.32	0.54	0.05
Lewis & Clark	3.58	0.62	0.02
Missoula	0.31	1.46	0.02
Blackfeet	2.92	1.74	1.05
Cabinet	8.52	0.56	0.11
Flathead	1.05	1.15	0.51
Kootenai	2.92	0.69	0.49
Lolo	3.79	1.45	0.08
Pend Oreille	1.90	0.32	1.12
Clearwater	8.10	4.76	0.62
Coeur d'Alene	3.16	1.46	1.09
Kaniksu	0.75	0.61	4.41
St. Joe	12.23	0.70	0.51
Nezperce	1.49	4.20	0.17
Salmon Mountain	0.05	1.87	0.23
Selway	4.51	7.55	0.16
East Selway	5.02	0.45	0.06
D-1	2.23	1.37	0.34

Cost of Fire Suppression.

In a statement, cost of protection plus cost of suppression plus losses -- the old so-called "economic theory" statement, "losses" still remains the biggest factor, but cost of suppression isn't far behind. We spend a mint of money on fire suppression. Due to the nature of the job and the conditions under which the work is done, I think a bit of waste is involved in the process. we are all satisfied that unavoidably quite The least we can do is to keep the waste down as much as possible by the most careful management we can give on any fires that become large. This does not mean that we should strike threatening fires with the fewest possible number of men that may be able to handle them, that we should withdraw patrol or reduce patrol when to do so is to invite further escape of the fire, or that we should refuse to spend freely when valuable resources are at stake. It does mean that we should supervise closely, build line by the most effective and rapid method, and that we should put the fire out quickly where that is reasonably possible, not just patrol and wait for it to go out. (Above underscoring is mine as P.K. would say. R.H.) So long as a fire is alive, anything may happen. Get it out and over with.

The "Why" of Fire Statistics.

Fire statistics in themselves are not worth the trouble it takes to compile them. You are not accomplishing much that is worth while with them if you are merely supplying neatly filled forms to the District Office and filing your own copy where you can find it again in case some one calls for it. After reading this, I wish you would consider again the adequate fire-control plan which should now be in the making for one district on each fire forest. Can you not dig out some of the statistics that have been filed in the past and give them useful life in that plan? And in making the plan will you consider that the purpose is not to get a neat report into the District Office on time? The real purpose is to ferret out from all the accumulated experience of the past, whether recorded or remembered, the few additional things that should be done -- could be done -- to make fire control on that district adequate -- and infallible. Forget for the time being the fact -- or fancy -- that you haven't the money or the men. Put down the things you would like to do if you really owned the old place and meant adequately to protect it from fire with plenty of funds to use for the job, but with none to waste. If you do that faithfully, with the help of every man in the organization who can help you, I am quite certain you get a clearer picture of the job you have to do there, and I doubt if the picture will be a discouraging one. Another fire season is coming. Some season will be another 1926, 1919, or a 1910. What will happen depends pretty largely on the adequacy of your plan and on your preparation. Will the outfit be ready?

LEOPOLD LEAVES SERVICE

Aldo Leopold, Associate Director of the Forest Products Laboratory, is to leave the Forest Service July 1, after 19 years service to engage in private work as a consulting forester specializing in game management.

For the present, Leopold will conduct a survey to determine the status and possibilities of game management throughout the country. This survey is financed by the Sporting Arms and Ammunition Manufacturers' Institute, and will require at least a year, during which time Leopold will continue to maintain headquarters at Madison, Wisconsin. He states that he does not consider he is leaving the field of forestry, and it is his hope that the survey will lead to a closer coordination of forestry and game management.

Leopold entered the Forest Service in 1908 as a Forest Guard on the Cabinet. He was a Forest Supervisor on the Carson in 1912-13, for several years was in charge of "educational cooperation" in D-3, and in 1919 became Assistant District Forester in Operation in that District. He went to the Laboratory as Associate Director in 1924.

Leopold's contributions to the development of Service work and ideals have been manifold and far-reaching. Always a pioneer and advance-guard, he has influenced and helped to mold many major Service policies and ideas, often in fields other than his immediate official assignment. His most conspicuous achievement in these independent fields is, of course, in the science and art of game management. In this field, he has received national recognition as a leader and an expert. His new assignment is only one form of this recognition, and it gives a very large opportunity for uninterrupted and constructive work in this major field of conservation. By a fortunate chance, the National Forests probably afford by all odds the best field for the development of sound game management, so that in a very real sense Leopold is not leaving the field of forestry or of National Forest work. But his going is a loss to the councils of the Service and to the associates and friends who have so long worked with him. - W. S.

DO SHEEP DESTROY GROUSE NESTS?

By R. R. Butler, Ochoco

I have noticed several articles by different writers in regard to sheep trampling out the nests of game birds. I am going to speak of the grouse and the location will be on the brakes of the John Day River. It is in this location where you can still go for a real grouse hunt, and this area has had sheep on it for the last 45 years.

A good many years of my life were spent herding sheep on these steep slopes that break off into the famous John Day. April and May were the months there that grouse would lay their eggs and hatch their young, and sheep were generally lambing on these grounds at that time. A great hobby of mine was to look for grouse nests while herding sheep, and I would often find as many as a dozen nests during lambing. I would watch the nest each day, visiting some nest every day. Sometimes the grouse would be off the nest and I would count the eggs, and if the grouse was on the nest I would watch her a while. I could get within a few feet of her before she would fly.

Now, as a general rule, these nests were always in kind of a protected place, such as beneath a sagebrush, a little juniper, or up close under a big tuft of bunchgrass and lupine. These places would be on steep hillsides. It seemed as if they were always shielded some from the storms and sun. It was a very hard matter to see a grouse sitting on a nest unless you were just looking for them. I remember these nests being close to our corrals where we drove the sheep in and out and never did know of a sheep destroying a nest, and some nests I have watched from the first egg laid until the little fellows were hatched and gone.

Sheep were ranged in this area the year round, with the exception of July, August, and September, at which time they were grazed on the National Forest. Grouse were always plentiful, and still are, in this locality, and there is quite a lot of hunting there in the fall. Sheep are queer things. I have noticed them trailing along and shy-off to one side. Then I would follow along to see what they were scared about and it would be a grouse sitting on her nest or just sitting on the ground. Sheep might possibly destroy a nest by trampling if it were right out in the middle of a sheep trail, or if the sheep were rounded up in a bunch and the dog used on them. They then might just be crowded over a nest, but if they are just ordinarily feeding or trailing along, they would never touch a nest. This is not taken from just one season spent on this range, but from a number of years.

As far as the habits of sage hens, I do not know much about them, but I have an area in mind which I am going to watch these next few years. There is quite a sage hen colony on a sheep range that is used from early spring until time to go into the Forest. They lamb at this place and also shear there; in fact, it is grazed awfully close. I believe it would be an ideal place to observe the decrease or increase of sage hens. I will at least have a good opinion as to whether sheep destroy nests or do not.

SHOW ANNOUNCES 1928 FIRE REGULATIONS

1. A camp fire permit must be secured before building any outdoor fires on National Forest lands, including fires in stoves burning wood, gasoline, or kerosene. A new form of permit will be used this season and will not be accompanied by the usual fire windshield sticker. The applicant must sign the permit in the presence of the issuing officer to make it valid, and must also register his name, address, automobile make and license number, number of people in party and destination, before receiving his permit. Camp fire permits may be secured from any Federal or State forest officer, automobile clubs, and other designated agents.

2. A shovel and ax must be carried by each automobile and pack outfit party camping in the National Forests. Travelers are urged to equip themselves with usable shovels having an 8 inch blade and a 36 to 42 inch handle, and axes (either single or double bitted) weighing 2½ pounds or more, with a 26 to 28 inch handle.

3. No smoking will be permitted on National Forest land during the fire season, except in camps or at places of habitation.

4. In certain National Forests in southern California, the building of camp and picnic fires will be restricted to improved and posted camp grounds.

"These regulations," said District Forester Show, "will be strictly enforced and will be most effective if backed by the hearty cooperation of all visitors to the National Forests. In 1927, California had more timber, brush, and grass fires than in any like period on record. This year promises to be a bad fire season and we are earnestly soliciting assistance in fire prevention from every citizen who has an interest in the conservation of the timber, water, forage, wild life, and recreational resources of the State." -

D. 5 News Release.

THE ROMANCE OF QUININE

By E. N. Munns, Washington

Those who at this time of the year particularly appreciate the merits of quinine in its many forms and disguises may be surprised to know that a pope, several priests, a woman novelist, a countess, Dutch prime ministers, an Indian or two, dramatists, distinguished botanists and bettleships have their roles in the history of this medicine, the spread of its use, and the bringing of the plant from the wilderness of South America into cultivation in Asia. However, the most romantic role in the whole story is that played by Manuel Inca Mamani, a South American Indian cascarillero (bark gatherer). But for him perhaps we would today be paying ten times as much for our quinine and have an undependable source of supply as well.

The original discovery of the curative value of quinine is reported to have been made by a native Indian in Peru who contracted a fever on a hunting trip. Sick, he attempted to reach his home but failed, and laid down to die. Thirst, however, made such a demand upon him that he struggled and crawled till he found a pool of water in which he slacked his thirst. After a time he recovered from his illness. The pool became an hallowed spot and the medicine water was known far and wide. A young chieftan of the tribe (with the research spirit), broke tribal traditions in his attempt to discover the source of the cure. To him goes the credit for finding that the branches from the tree above fell into the pool, and that the bark gave the bitter taste.

The legend found its way to Europe early in the history of the Americas and Madame de Genle wrote a novel using it as a base. Her story was dramatized by Jan de Quack who has given us his name as a by-word: Quack Doctor! The Countess Cinchon, wife of the vice king of Peru, took to Spain with her in 1640 a great quantity of the bark. With this she effected numerous cures and her fame, and that of the drug, spread throughout South Europe. Recognizing the lady, Linneaus the great botanist gave her name to the genus to which the tree belongs - Cinchona.

Various attempts were made to introduce the plant into Europe, but without success, and the effort died down until the colonization of Asia by Europeans began. However, Peru recognized the value of the bark as an article of commerce and placed very strict embargoes upon the export of seeds or plants, and many an Indian paid with his life for his effort to get seed or plants into the hands of the Europeans. Finally, a Dutch botanist in disguise penetrated the tropical forests and was able to obtain some seed with which he successfully reached the Coast. The Dutch prime minister had battleships and armed forces in waiting and the seeds were safely sent to Java. Because of his strenuous efforts the name of this Dutch minister, Pahud, was given to the species Cinchone Pahudiana. The importation was successful and Java became the center of the quinine trade which was later lost to the more enterprising English in Ceylon and India who stole seed from Java.

An Englishman, Charles Ledger, who had traveled extensively in Bolivia and Peru, had an Indian servant, Manuel Inca Mamani, who was once a collector of bark. He told his master of certain trees different from others which had bark much more bitter than the trees from which the bark was commonly gathered, and collected some seed for him. Charles sent these seeds to his brother George who failed to get English backing for the venture, but found the Dutch willing to take a chance because they had lost their markets anyway. The seed was sent to Java where the yields of the bark proved superior to that from the previously known species.

English interests became aroused over the discovery and wanted more seed. So Manuel again went into the jungle but was caught this time with the goods on him. He was flogged to death for not telling for whom he was collecting. The Ledgers became wealthy from their share in the enterprise, and the botanists recognized them by naming this high yield species Cinchona Ledgeriana. As a result of all this, Java obtained the leadership in the world's quinine trade, a leadership she has not since lost. So, the next time you take quinine, remember Manuel who obtained no known earthly reward, and mayhap it won't seem so distasteful.

HOW WESTERN YELLOW PINE BLISTER RUST SPREADS

By F. R. Johnson, D. 2.

Several years ago, there was an outbreak of the western yellow pine blister rust, Peridermium Harknessii, in the Halsey plantation on the Nebraska Forest. An effort was made by pathologists to find the alternate hosts, but they were not certain that these plants are to be found in the Nebraska Forest during the fruiting season of the peridermium. Dr. Hartley, of the Bureau of Plant Industry, suggested that the blister rust might, in this case, be spread by direct infection and directed Supervisor Higgins to test it out. A shelter of muslin 4 feet square was placed around some one-year seedlings of western yellow pine and some of the fruiting bodies of western yellow pine blister rust were scattered over these seedlings. The seedlings were transplanted at the end of the second year and held in the transplant beds for one year. This spring, prior to planting trees in a separate plot, which was to be observed for a number of years, four 3-year old transplants were found with well defined peridermium galls which were apparently about ready to fruit. This experiment indicates that Peridermium Harknessii can be spread in western yellow pines by direct infection.

LABORATORY WANTS GRADUATE WORKER

The Forest Products Laboratory at Madison, Wis., is looking for one or two men with good fundamental undergraduate training in botany, chemistry, and related sciences who would like to continue their training by working toward a doctor's degree at the University of Wisconsin along bio-physical lines with research in forest products.

For research projects the laboratory has in mind particularly studies concerning the relation of the structure of wood to the movement of liquids in wood, and to shrinkage. Very little fundamental work has been done on these subjects, yet both are of vital importance in drying lumber, in treating wood with preservatives, and in numerous other phases of wood utilization.

Applicants with forestry training will have preference. Graduate research students at the Forest Products Laboratory are exempt from non-resident tuition fees at the university. While the laboratory cannot promise a permanent position when the doctor's degree is obtained, men with such training and experience would be particularly desirable for more advanced research along the lines mentioned.

FIRST WOMAN FORESTER

Miss Helen Henderson, when she receives her diploma from the Colorado college this month, will be the only woman forester in the United States. She has taken examinations for the position of forest ranger, not so much because that will make her the pioneer woman ranger, as because it will further this practical experience. Her ambition lies on the very heights of the field of forestry.

Last summer Miss Henderson went into the planting camp of the Pikes Peak National Forest and used the grub-hoe to such effect that in a short time she became pace-maker. There is no part of the course in which she has not actively participated. - From the American Tree Assn. "Forestry News Digest."

Burned or burning cigarettes are discarded at the rate of 170,000 a minute -- 90 billion a year -- in the United States, according to the best figures available. Ignition tests have shown that burning cigarette butts will start fires in 90 percent of the cases when there is a wind velocity of three to four miles an hour.

FIFTEEN YEARS

It has taken fifteen years for some of the seeds of good Range Management to bear fruit. The following is quoted from the District III Letter of November 1912:

"Grazing Assistant James H. Sizer at the Apache-Datil-Gila Ranger Meeting read a most interesting paper on 'Better Methods of Range Control' from which the following is quoted as being of general interest:

'The methods which appeal to me as most desirable for bringing about an immediate and more effective system of range control are (1) to establish individual cattle ranges or community ranges where individual ranges are clearly impracticable. These individual ranges or grazing units should be established to conform with the natural range divisions formed by streams and watersheds. When the boundaries of these individual cattle ranges have been satisfactorily decided upon and the necessary drift fences constructed, all stockmen should be required to represent on all regular roundups in the vicinity of their ranges, and cut back all of their stock which is found outside the natural grazing unit in which their particular ranges are situated. (2) A strict enforcement of the salting regulations, requiring each permittee to place a reasonable amount of salt on the range allotted to him, will aid materially in locating and holding his stock on that particular range. (3) By the construction of drift fences by the Forest Service where needed to divide the range into natural grazing units. (4) By the systematic plan of water development by the Forest Service, to improve all existing watering places and also to develop water on ranges which are not at present used on account of a lack of water.°°

'It is my opinion that in establishing individual ranges and putting into effect a practical system of range improvement and water development, the Forest Service would secure the confidence and full cooperation of the stockmen throughout the forest, thereby reducing opposition to a minimum, and simplifying many complicated problems now confronting the grazing administration of the Forest Service.'" - District 3.

OUR PATIENCE RECOGNIZED

By C. B. Neal, Umpqua

The Oregonian, Portland, Ore., frequently publishes very readable, philosophical essays in the guise of editorials. The following is quoted from "The Patience of Jim Dinkens", which appeared February 23, 1928;

"Men who live much with the trees, the grave and murmurous forests are commonly patient and equable of disposition. You cannot rebuke the wind in the cedars. One cannot hurry the centenarian sugar pines. It is wasted breath to dispute with thorns and undergrowth. There is no controversy with mountains. The fine quality of patience fairly seeps into the fiber and veins of him whose residence is in the timbered hills."

AVIATORS START A FIRE

"In the course of bombing practice by aviators of the 11th squadron at Metz a bomb from one of the planes set fire to the dry grass and dead timber in the forest between Ars and Aucy-sur-Moselle. Sixty hectares of young trees were destroyed." From Bois et Reseneux. April 22, 1928.

WHOLESALE MOVIES

Mr. Jones of the District Office of Public Relations is conducting the educational campaign on the Crook which opened before the Safford Rotary Club last week. Arrangements have been made for twenty shows although it is expected that this number will probably be increased somewhat before the trip is ended. - D. 3 Bulletin.

The new leader will base his policies and decisions on facts - not on emotions or opinions. He will use the best experts, laboratories, market surveys, statistics, trade associations, government research agencies, and highly skilled associates. - Industrial Bulletin, April 1928.

Service Bulletin

U.S. FOREST SERVICE
(Contents Confidential)

Vol. XII No. 25 Washington, D. C. June 18, 1928

A LETTER FROM THE SECRETARY

My dear Mr. Clapp:

Through the courtesy of President Coolidge I have the pleasure of transmitting to you, as an expression of appreciation for your valuable efforts in laying the foundation for an enlarged Forest Research Program, the pen used by the President on May 23, 1928, in approving the bill

> S. 3556, An Act to insure adequate supplies of timber and other forest products for the people of the United States, to promote the full use for timber growing and other purposes of forest lands in the United States, including farm wood lots and those abandoned areas not suitable for agricultural production, and to secure the correlation and the most economical conduct of forest research in the Department of Agriculture, through research in reforestation, timber growing, protection, utilization, forest economics, and related subjects, and for other purposes.

In sending you this souvenir of a splendid achievement in conservation legislation may I not add my heartiest congratulations and good wishes.

Sincerely yours,

W M Jardine

Mr. Earle H. Clapp, Assistant Forester,
In Charge of the Branch of Research,
Forest Service, U. S. Dept. of Agriculture.

MAKE IT FORESTER

By Dewey S. Wright, Colorado.

It appears the suggestion made to change the title Forest Ranger to Forester is about to go by the board without a single concurrence. Therefore, I hasten to get one vote, at least, registered for the change.

Personally, the change struck me as having considerable merit the first time I heard of it, for the simple reason that it more nearly describes the duties of the present day Ranger. Forest Ranger, no doubt, is very descriptive of the old job, and carries with it a lot of warm feeling for those who knew the Service years ago. But why hang on to an ancient relic which is now completely out of date, just for sentimental reasons?

The people of my territory, in the greatest number of cases, always refer to the Ranger as the Forester. "Our Forester for this region." This, no doubt, is the direct result of our educational activities: the people are beginning to realize just what our work is and what we are doing, and it is only natural for them to use the name forester. About the only time I am called Ranger by outsiders is when some one says, "Oh yes, you are a National Park Ranger." Well, if it ever comes to a vote, I'm going to raise both hands in favor of Forester.

Of course, I guess we don't get to vote on the other changes, anyway it wouldn't be necessary, since surely no one would want to be a Forest Supervisor when they could be a Forest Manager, or a District Forester when they could be a Division Forester.

As for Senior Forester, why shouldn't we start as Foresters and end up as Senior Foresters?

AMERICAN FOREST WEEK AS OBSERVED IN A MONTANA COW-TOWN

By C. S. Webb, D. 1.

Along about April 10 it was my good fortune to be sent up to Wisdom, Montanta, with instructions to make all preparation for organizing a crew of 4 or 5 hundred men to be scattered about in 20 or 25 camps. This crew is to be used for the purpose of carrying out a crusade against the mountain pine beetle which, from all indications, is bent upon complete destruction of the lodgepole pine forests surrounding the Big Hole basin at the head of the Big Hole River, in Montana.

Wisdom is a little town of 100 people and twice as many dogs. It is noted as the greatest inland cow-town in the State, if not in the United States. It is inland, too; fifty-five miles from the railroad and no road between. They go and come just the same, and the mail goes and comes in each day. The driver says that nothing but a Buick, outside of horses, can make it. He always makes it, sometimes over 4 feet of snow, and at other times under 2 feet of mud .

Annual spring clean-up week was designated to take place the week of April 16. I understand this was designated by a school teacher experiencing her first spring in the Big Hole. Everything was still frozen down and snowed under, so it was apparent clean-up week would have to be postponed. Old-timers said they always postponed their May-day celebration until July 4, as it was usually pretty cold up to that time. I believe it, too, as the thermometer registered 30° below zero on Easter Sunday morning. Notice, please, I said below.

It was finally decided to postpone clean-up week to July 15. After the combined May-day and Fourth of July celebration had been held they could then clean up and have the town spick and span the remainder of the summer until snow-fall, which usually occurs in quantities about September 1.

These events being postponed, it occurred to Ranger M. G. Ramsey and me that the week April 22 to 28 was American Forest Week. As we had no authority upon which to postpone this, we decided we had better do something to show that we at least observed this week, which had been designated by our President. Perhaps we could bring some beneficial things to the citizens hereabouts.

We thought a window display should be made in the village which might bring the matter of forest protection to the attention of the public. I secured a section from the bole of a beetle-infested lodgepole and counted out the rings, determining its age at about 136 years. Cards were printed, giving the dates of past events, in history, such as Lincoln's birthday, Dewey's victory at Manila, Battle of the Big Hole, marriage of our town butcher, etc. The diameter of the tree on the date of each of these occurrences was also given on the cards, and a card dated 1927, stated that the tree had at that time been attacked by insects and killed. A plea for protection of trees against insects and fire was made on this last card. From each card a string of a different color lead to each annual ring made at the time of the particular occurrence.

A section of the block was peeled showing the effects of the beetle work, channels, etc., and a number of the adult beetles in evidence. A card calling attention to this had a string leading to the peeled section. A 15-man fire mess outfit was displayed, which was interesting to most of the people, since they had never seen one before. Tools and paraphernalia used on insect control work were shown and a number of standard fire signs. A large card bearing "American Forest Week, April 22-28" was set up in the center.

All this of course was not gorgeous. Merely made up from the best material we had at hand. Mr. Ramsey, Assistant Clerk Beck, and I really are not unduly proud of what we did. However, we realize all the Forest Service men will be telling and writing of the great speeches, displays, exhibitions, etc., made in the outside world during this week and we wish you fellows to know we were trying to do our share up here. We perhaps did not have the crowds viewing our exhibits as might have been seen in the larger cities. Not thousands, because they are not here. However, we got them nearly 100 per cent, and had no unfavorable comment nor threats hurled against us.

This article merely relates how American Forest Week is observed in some of the out-of-way towns which many of us seldom think about, and a great many of us do not know exist. Our Rangers are the men who are reaching out and making and keeping contact and friendship with the people of the out-of-way and far inland localities. Regardless of how far back it may be, a Ranger such as the man located at Wisdom is sure to hold that friendly feeling principally through his square dealing and friendly attitude, and we may rest assured the inhabitants will all know "what is the Forest Service and why."

REMEDY FOR "BALD-SPOT" NOW KNOWN.

Reforestation is a modern development. Writing in 1642, Thomas Fuller, author of "The Holy State and the Profane State", lamented the fact that there was no help for a spot "bald" of wood. But Fuller appreciated the value of trees, and recognized the consequences of timber depletion even in that day. Said he:

"Wood and water are two staple commodities where they may be had. The former I confess hath made so much iron, that it must now be bought with the more silver, and grows daily dearer. But 'tis as well pleasant as profitable to see a house cased with trees, like that of Anchises in Troy ....

The worst is, where a place is bald of wood, no art can make it a periwig." -- C.E.R.

ARTIFICIAL RESEEDING OF RANGES IN PRACTICE

By J. W. Humphrey, Manti

On the Manti National Forest, which is situated in the Wasatch Mountains in central Utah, methods of artificially reseeding ranges have been tried out with considerable success. Introduced annual and biennial species were not sown in these tests because it had been previously determined at the Great Basin Range Experiment Station that at the higher elevations (above 9500 feet) these plants do not produce viable seed, due to the shortness of the season, and, therefore, it is necessary to artificially reseed the range again after one or two seasons, which is too expensive. At the higher elevations it is necessary to sow perennial plants to avoid reseeding costs, and it is the best plan, when possible, to select species that reproduce vegetatively as well as by seeds.

One plant selected for reseeding the Manti ranges was smooth brome grass (Bromus inermis). This plant had shown good results in the range reseeding experiments at the Great Basin Experiment Station, seeming to be well adapted to certain types of denuded ranges. An acre of fenced ground at the Bear Creek Ranger Station was sown to this species in 1924. Each year thereafter the seed was harvested on this plot and was sown on the most depleted areas on the Manti Forest by the Forest Rangers.

While the results from these sowings were encouraging, it was evident that the Rangers alone could not in many years do all the needed reseeding work on the Forest. In order to get all the overgrazed areas reseeded as soon as possible, the help of the stockmen was solicited. The Forest Supervisor and the stock associations sent letters to all the stock owners and herders on the Forest asking for their cooperation in the proposed reseeding work. These men were urged to collect seed of the valuable forage plants on and near their allotments in connection with their regular work. The Rangers offered suggestions on reseeding practices as they visited the various allotments. Some of the stockmen collected only pockets full of seed now and then, but others stripped sacks full of ripened seeds from the plants. The seed was scattered over the depleted areas on the range.

With from a hundred and fifty to two hundred men collecting and planting seed on the depleted area each year some excellent results can be expected within the next few years. The plan has caused the stockmen to become more interested in range plants and in range management as a whole.

The collection and planting of seed of the more palatable plants is not a new idea. For a number of years past some of the herders have been collecting and sowing seed each year. The Cottonwood Creek Cattle and Horse Association, in the fall of 1924 sowed 200 pounds of yellow clover seed that had been furnished them by the County Agent of Emery County. Work of a more or less experimental nature has been carried on, in a limited way, for a number of years by local Forest officers. Last season, in cooperation with the Twelve Mile Cattle and Horse Association, sowing of some 40 or 50 acres of denuded range in Clear Creek Flats was undertaken. Wheat grass from the steppes of Russia, and a mixture of alfalfa, timothy, alsike, and dutch clovers was sown in May 1927, and rye and the smooth and native brome grasses were sown on adjoining areas late in the fall of 1927. The rye can hardly be expected to amount to much, other than to furnish forage for one season and perhaps act as a nurse crop for the brome grasses sown on the same area.

The clover seed sown by the cattlemen in the fall of 1924 was distributed by the riders as they made the second fall ride. Last season it was noticed that some of the area covered had an excellent stand of yellow clover, so unless a part of the seed had lain inactive for more than one year viable seed must have been produced in 1926, since yellow clover is a biennial.

Stockmen, especially sheep herders, are very much interested in this reseeding work and are collecting seed of palatable plants at some distance from their allotments or even from other Forests. The work of artificial reseeding has only started. It is planned to continue the work until the ranges are brought up to their productive capacity.

TWO HUMAN TYPES

There are two sorts of people in the world, who, with equal degrees of health and wealth, and the other comforts of life, become, the one happy, and the other miserable. This arises very much from the different views in which they consider things, persons, and events and the effect of those different views upon their own minds.

In whatever situation men can be placed they may find conveniences and inconveniences; in whatever company they may find persons and conversation more or less pleasing; at whatever table they may meet with meats and drinks of better and worse taste, dishes better and worse dressed; in whatever climate they will find good and bad weather; under whatever government, they may find good and bad laws, and good and bad administrations of those laws; in whatever poem or work of genius they may see faults and beauties; in almost every face and every person they may discover fine features and defects, good and bad qualities.

Under these circumstances the two sorts of people above mentioned fix their attention; those who are disposed to be happy, on the convenience of things, the pleasant parts of conversation, the well-dressed dishes, the goodness of the wines, the fine weather, etc., and enjoy all with cheerfulness. Those who are to be unhappy think and speak only of the contraries. Hence they are continually discontented themselves, and by their remarks, sour the pleasures of society, personally offend many people, and make themselves everywhere disagreeable. If this turn of mind was founded in nature, such unhappy persons would be the more to be pitied. But the disposition to criticize, and to be disgusted, is perhaps taken up originally by imitation, and unawares has grown into a habit, which though at present strong, may nevertheless be cured, when those who have it are convinced of its bad effects on their felicity . . . .

If these people will not change this bad habit, and condescend to be pleased with what is pleasing without fretting themselves and others about the contraries, it is good for others to avoid an acquaintance with them; which is always disagreeable, and sometimes very inconvenient, especially when one finds one's self entangled in their quarrels.– Benjamin Franklin.

CIVIL IMPROVEMENTS AND US

By J. H. Billingslea, Siskiyou

"One hundred miles of highway free from signs", states a recent headline in the Port Orford News, Ore., referring to the Roosevelt Highway from Bandon south to the California line. Credit for this belongs to the Port Orford Chamber of Commerce and the Port Orford News, whose editor, C. W. Sorenson, was likened to a David by the "Oregonian" when his editorials induced the powerful Shell Company to remove many signs in the course of erection.

The above is a good illustration that a united community gets what it wants and a fireless and therefore smokeless summer is excepting lightning fires, theirs if they demand it.

The forestry and fire prevention committee of the Grants Pass Chamber of Commerce is sponsoring a movement to plant trees along the highways of southern Oregon. The garden clubs are assisting in this work and expect to further beautify the roads by preserving existing shrubs and flowers and planting additional ones. Arrangements have been made to plant a mile and a half of the Pacific Highway north of Grants Pass.

Redwoods will be planted along the Redwood Highway where adjacent land is irrigated, when the betterment and reconstruction work is completed.

Our interest in this work is more than altruistic. When the people become tree conscious they must become fire conscious to protect the trees from fire. This is particularly true in this region of dry grass and abundant smoker fires.

A STUDY OF THE FACTORS AFFECTING SUPERFICIAL RUN-OFF

The problem of what becomes of the rain, with particular reference to its absorption by the land surface, which has never been satisfactorily answered, is being attacked from a new angle in California. The non-absorbed portion of the rain, which accumulates on sloping lands into rills, is the largest factor in erosion. But run-off, as usually understood, includes not only the superficial run-off from storm rains but also seepage, including both the shallow or wet weather seepage and the deeper seasonal seepage. What the interrelation is between precipitation, run-off, and seepage has never been comprehensively studied.

To isolate and measure these closely interrelated factors has been the object of studies for some years by Mr. Walter C. Lowdermilk. He has developed a method of special run-off plots of areas of 1000 square feet, to isolate the factor of superficial run-off from the total run-off as usually understood by this term, together with instruments of his own design wherein the tipping bucket principle is used both for the rain and for the run-off gages. Both types of instruments record on a continuously moving record ribbon of paper. Studies of this kind have been conducted quantitatively for the past three years in China. Preliminary reports of these studies were presented before the engineering society of China and before the 3rd Pan-Pacific Science Congress, Tokyo, Japan, in 1926.

In California these studies are now being continued by Mr. Lowdermilk as a cooperative project between the California Forest Experiment Station, whose staff he has recently joined, and the Division of Forestry of the University of California. Four of the 1000-square-foot plots are installed in Southern California, and eight run-off seepage tanks are installed on a University [illegible] at Berkeley. The latter experiment is designed to yield data on the comparative amounts of superficial run-off and seepage. The evaporation from the soil surface will be determined by subtracting run-off and seepage from the total water applied by natural rain and by artificial sprinkling done on the Skinner principle. The complete water cycle should thus be determined. These tanks have a projection area of 10 square feet and are filled with a profile of soil, 2.5 feet deep. Each tank holds a little more than a ton of soil and the tanks are so designed and installed that the soil surface has an inclination of 15°. The slope inclination can, however, be altered to determine the influence of slope on the absorption and run-off of rainfall. Silt trap devices are also provided by which the erosion of soil is caught and measured. Three types of soils are represented, one from near Placerville, California, derived from andesites, one from near Sonora, derived from granodiorites, and one from sedimentary shales and sand stones near Berkeley. The first two soil types thus represent soil series of the Sierras, the latter a soil series of the Coast Range. Two conditions are being compared, one with natural forest litter and the other with the forest litter removed by burning.

The problem here studied includes chiefly the diagnosis of the factors affecting superficial run-off and its consequent soil erosion and the interrelation between run-off and seepage. The counterpart of this study, namely the control of erosion, is to be undertaken subsequently. – California Forest Exp. Sta.

MORE ABOUT THE SO-CALLED PETRIFIED FOREST

Much interest is being shown in the so-called petrified forest of Brewster County, Texas, which was reported to have been discovered by Dr. C. O. Gaither and Prof. S. I. Cade in 1926. In the January 16 issue of the Service Bulletin was quoted a letter from Mr. R. A. Epperson of Marfa, Texas, who had visited this area in company with the late Mr. George B. Sudworth.

In a recent letter received from Mr. Tom O'Neill, Division of Entomology, State Department of Agriculture, Austin, Texas, he also tells of visiting this forest. His letter follows:

"I enclose a newspaper clipping which I wish to comment on, since I notice that additional information is requested by your Bureau.

"I am acquainted with the curiosity

mentioned, having visited it several times while stationed in that part of the State. I agree with Mr. Epperson, who is a good friend of mine, that a more extensive survey would be interesting. I should like to add, however, that the party should include a competent geologist, my reason for this being that I do not believe the wonder to be a petrified forest.

"I have been interested in geology for some time, and have an elementary knowledge of the subject. I have seen petrified wood in several localities, including Maryland, east Texas, etc., and have seen specimens in the U. S. National Museum from various sources The substance in question does not bear any resemblance to any petrified wood that I have seen, nor to any existing vegetable matter that I know of.. There are no apparent plant cells, vascular bundles, or anything of that nature. The material might be termed of cellular structure, since it has many small longitudinal air spaces, but I believe it to be a sort of volcanic tufa, of somewhat the same structure as pumice, but very much harder.

"The specimen, of which the measurements are given, bears a superficial resemblance to a gigantic tree stump. There are formations on it which resemble knots or broken branches, and the cleavage is longitudinal, so that there are many fragments about the base which could be taken for large splinters. However, I believe this specimen and the others to be the remains of small volcanic necks or plugs, the molten lava having found or formed a vertical channel, and upon cooling the enclosed gases formed the cellular structure referred to.

"There is one 'stump' reported, although I have not visited it, that is about 600 ft. in diameter, and this strengthens my belief that the 'forest' is not of organic origin. However, most, if not all of the few people who have visited the locality, believe that it is the remains of a forest, including the late Dr. Sudworth

"I will be glad to give you any additional information possible, in case you are interested, and Mr. R. E. McDonald, chief of this division might also be able to add something of interest. I should also be interested in learning of any determinations that your Service may make."

A specimen from the so-called petrified forest was obtained and sent to the Forest Products Laboratory for examination. They report as follows:

"We have made a careful microscopic examination of the sample but find no evidence of wood structure in it. The pores in the material do not resemble those of wood in shape or distribution. There is absolutely no other evidence of cellular structure."

TWO SIDES TO THE PROBLEM

At the sixth conference of the various Bureaus of the Department conducting forest research Dr. W. B. Bell of the Biological Survey discussed the investigations of that Bureau. At different times his organization has undertaken work directly related to Forest Service projects. A number of years ago a study of chipmunks was made at the time the Service was doing direct seeding. More recently studies of the habits and damage done by pack rats and porcupines, particularly in the Southwest, have been carried on. Dr. Bell pointed out that while studying the damage done by animals to the forest the benefits may be entirely overlooked. Sometimes chipmunks and mice actually sow forest seed by burying it and then forgetting to dig it up. Rodents eat fruiting bodies of harmful fungi such as those causing root rot. Many examples have been noted where squirrels have eaten the bark of white pine infected with blister rust. On the other hand, the rodents of the range appear to do more damage than good. Occasionally there is a close relationship between rodents and insects. For example, mice have been found to feed on the pupae of the larch sawfly, thus doing a real service to the forest. - F.H.E

TIMBER SALES IN D-2

The Denver office has opened bids in the last two weeks for the following sales:

Lower Palmer Gulch unit, Harney Forest, 2,097,000 ft. western yellow pine saw timber @ $3.75; Empress Gulch unit, Black Hills, 3,100,000 ft. western yellow pine saw timber @ $4.50; Albany unit, Medicine Bow, 260,000 railroad ties @ 13¢, 3,300,000 ft. sawlogs @ $2.00, 3,000,000 linear ft. mine props @ 28¢ per 100 linear feet, practically all of which is lodgepole pine; Box Canyon unit, Gunnison Forest, 216,400 railroad ties @ 6¢, 1,886,000 ft. sawlongs @ $1.50, 1,741,000 linear feet mine props @ 15¢ per 100 linear feet lodgepole pine and Engelmann spruce. The total prices bid for these 4 sales aggregate approximately $90,000.

In addition to the above bids, we have received informal applications from several operators who wish to furnish 600,000 railroad ties annually to the C.B. & Q. R.R. at Denver. - District 2.

ULTRA-RAYS ON TREES

According to the American Lumberman, interesting and valuable experiments with the X-ray to discover defects in growing trees have been carried on recently at Rochester, New York, by the City Forester and the research laboratories of the Eastman Kodak Company. The experiments were begun after an apparently healthy tree fell into a street. The rays distinguished clearly between sound wood and the decayed parts. They also showed cavities and other details. Even the type of decay which merely lessens the strength of the wood without greatly affecting its solidity was shown plainly by the photographs. Experiments with X-ray on telephone, telegraph, and electric light poles have also been made. - D. 3 Bulletin.

D-3 LET YOUR SPRUCE SEEDLING GROW A FEW YEARS LONGER

A 52 inch Engelmann spruce tree is reported on the Lincoln Forest in D-3, on page 6 of the May 7 Service Bulletin, as the biggest Engelmann spruce in the Rocky Mountain region.

Very nice, if true, but if the men on the Lincoln want to see a 62 inch Engelmann spruce, some Engelmann spruce logging units that average better than 20,000 ft. B.M. to the acre, or Engelmann spruce in the Rocky Mountain region growing at the rate of 24" D.B.H. in 80 years, the Gunnison Forest will be glad to accomodate them.

(Gunnison)

Shall we come to this?

"Before the War large landowners bought up tenements, farms, or even whole villages and afforested the land on a large scale. The reason was chiefly the safe investment which forestry gives. Fortunes gained quickly were invested in this way. Between 1878 and 1913 the area occupied in Germany by agriculture decreased by 1,912,000 hectares (4,722,640 acres) against which forest area increased by 348,246 hectares (860,170 acres). To buy up farms and to afforest land on a big scale is now usually prohibited by law in Germany."

(Franz Heske in Forestry - the Journal of the Society of Foresters of Great Britain.)

Service Bulletin

U.S. FOREST SERVICE
(Contents Confidential)

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WILL C. BARNES' NEW POSITION

By R. Y. Stuart

Members of the Forest Service will find it difficult to believe that Will C. Barnes has reached retirement age. We see in him the same active, virile, energetic and enthusiastic personality which we saw when he entered the Forest Service twenty one years ago. Years have neither taken from his intellectual keenness nor lessened his zest in life, with its varied interests -- interest in people, in doing things, in all that enriches living, as well as in the Service and the many public activities in which he has played such an important part.

He had looked forward to retirement that he might play and enjoy the long life which we know is ahead of him. The need for his abilities, however, and the qualifications he possesses have led to a different arrangement. The Government could ill afford to lose him at this time. It was willing, at his request, to release him from the more arduous administrative responsibilities, but it has sought and secured his services for work in which he is intensely interested and from which he will derive the same degree of pleasure and happiness which his recent work has afforded.

On July 1 he becomes the Secretary of the United States Geographic Board. He does not retire, therefore, but transfers, at the urgent request of the Geographic Board, to a position which needs him and for which he has outstanding qualifications. This arrangement is in recognition of the Forest Service interest in the geographic work and the benefits which will accrue through this more tangible form of cooperation. He will still be in close contact with our own organization, and with his old associates and friends here, whose best wishes will always follow him -- and that will hold true not merely for us here but wherever our organization extends.

(The interesting story of the important part played by Will Barnes in the formulation and execution of Forest Service policies will be told in a later issue of the Bulletin.)

MR. THOMPSON'S WILDERNESS

By Aldo Leopold, Forest Products Laboratory

In the May 14 Bulletin Mr. Manly Thompson of D-4 demolishes the wilderness policy. He does it so effectively that I am led to wonder whether the resulting corpse was alive to begin with. Some of its original attributes, as discerned by Mr. Thompson, make me think not.

First and most important, Mr. Thompson discovers that wilderness areas are at bottom semi-private preserves, to be kept for the benefit of the few who have the time and money to travel in them.

This imputation of an unholy alliance with Wealth can best be checked by observing the users of our going areas, such as the Superior or the Gila.

I have seen fellows who looked wealthy, preceded by a safari of guides, puffing over the trails of each, but they didn't look as if they owned the wilderness.

I have also seen fellows who I know were wealthy on our Forest Highways, but nobody has yet condemned our good roads policy on these grounds.

Secondly, Mr. Thompson wonders whether a self-respecting wilderness enthusiast would really want to play in a wilderness marked out and protected by a paternal government.

It all depends on what is self-respect. Would a self-respecting athlete play at a game rather than wait for a real battle? Would a self-respecting boy fish in a washtub? Maybe,- if he has to. The capacity for illusion may not be self-respect; enthusiasm for half-loaves may be bogus; but the world continues habitable by reason of these failings.

But these matters are all details. They are not the issue. The issue is whether any human undertaking as vast as the National Forests can be run on a single objective idea, executed by an invariable formula. The formula in question is: Land + forestry = boards. We need to use it more than we do. But can we run the National Forests by it alone?

Many big moves have gone on the rocks trying to do the like. Ours will survive to the extent that we realize that it, or any other phase of the social order, is necessarily an intelligent compromise between conflicting principles, as distinguished from the complete dominance of the one most recently re-discovered.

Whether we like it or no, National Forest policy is outgrowing the question of boards. We are confronted by issues in sociology as well as silviculture,- we are asked to show by our deeds whether we think human minorities are worth bothering about; whether we regard the current ideals of the majority as ultimate truth or as a phase of social evolution; whether we weigh the value of any human need (like recreation) wholly by quantitative measurements; whether we too have forgotten that economic prosperity is a means, not an end.

These issues do not often come up in running a real estate office or selling shoes. They always come up in founding a State or an industry, or in pioneering any great and new departure in human affairs. The National Forests are such. The wilderness idea is a small but significant outgrowth of the idea of National Forests. Its importance is that of a test case. The decision, in my opinion, will indicate whether the U. S. Forest Service is tending to become a federal bureau which executes the laws, or a national enterprise which makes history.

To Mr. Thompson and to any forester of like mind I would say what Voltaire said to his scoffing friend: "It is the duty of a man like you to have preferences, but not exclusions."

RANGER STUDY COURSES

By Jno. D. Guthrie, D-6

The Forest Service has been experimenting with ranger correspondence or study courses now for some fifteen years or more. I say experimenting, for few Districts have conducted courses systematically and regularly, and seldom has more than one District used the same courses. Some Districts have used the study courses spasmodically, if at all; some not at all.

Why should not a series of courses be worked out, dealing with basic subjects, which every Forest Ranger or field man in the entire Service could take if he wished to? We have been talking about ranger schools, study courses, and training camps for twenty years and yet what have we offered in the way of opportunity for self-improvement to the Ranger who is sincerely anxious to better himself?

True, a few Districts have training

camps but only a small percentage of picked Rangers ever get to them. Some Districts offer study courses, but there has never been a list of study courses worked out and made available for any and every Ranger from Alaska to Florida. We've stressed Personal Training in manuals, handbooks, and circular letters, but there's been no democracy about what opportunities we did offer for education and self-training.

Now, after many attempts, it doesn't seem we are any nearer to ranger schools than we were 23 years ago. And I don't call a 6-weeks' camp a ranger school.

If we are not going to make opportunities for the Rangers to improve themselves, why not go to an agency that makes a business of preparing and handling correspondence courses? (and I don't mean the Norton Institute of Denver, either). I mean the International Correspondence Schools. This institution is generally considered an expert in its line. They have hundreds of standard courses, with texts which they have had prepared, and they cover the world.

I hear someone say, "Oh, the I. C. S. is all right for men in commercial life but it won't fit our conditions." Well, maybe not, but the I. C. S. have worked out special courses for the U. S. Marine Corps, for the U. S. Post Office Department, and for the National Retail Lumbermen's Association, to mention a few. These courses were specially prepared to fit the peculiar conditions in these three totally different organizations. It is not unlikely that they could work out courses for us.

One might not expect them to teach by correspondence the finesse of correct marking practice, or fire fighting, or trail building, and yet we have manuals and handbooks on these subjects and are insisting on more and more study of standard (paper) instructions on these very subjects.

Here are some of Keplinger's D-2 Study Courses: Forestry, Elementary Forestry, Forest Mensuration, Botanical Studies, Range Management, Surveying, English, Organization and Efficiency, Bird Study, etc. If Keplinger is teaching these through study courses to the D-2 personnel, the I. C. S. would do it for the entire Forest Service, if they had the same texts and some help and advice from us.

The I. C. S. have courses on a tremendous number of subjects. They are in the business of teaching by home study, and have been for many years. They are largely experts in this line and they are thoroughly reliable.

To mention only a few of the subjects which our field men are supposed to know something about: automobiles, auto mechanics, internal combustion engines, bridge construction, surveying and mapping, drafting, telephony, principles of the telephone, compass surveying, sanitation, sheep management, and such broader subjects as English, advertising, salesmanship, high school courses, etc.

Why not turn our correspondence and study courses over to somebody who will systematize them and make them available to the entire body of field men, instead of a few men in a few Districts? The I. C. S. are interested, and will tackle the job if we want them to, and if we will cooperate with them in working out the courses.

NEW LEGISLATION IN FIRST SESSION OF 70TH CONGRESS

Acts of Congress during the months of March, April, and May added the following acreage to the National Forests: Manti - 640 acres (conditional); Idaho - 46,000 acres; Challis and Sawtooth - 26,480 acres (This area lies between these two Forests); Challis (east side) 54,000 acres; Crater - 27,840 acres; Gunnison - 6,120 acres; Missoula - 220,000 acres; Montezuma - 21,500 acres.

Some other laws enacted by Congress during this period directly affecting the National Forests or work of the Forest Service were:

Act of April 12 (Public 272), authorizing the conveyance to the State of California of certain described lands for a State Park on condition that within six years the State establishes a State Park covering the

South Calaveras Big Tree Grove.

Act of April 30 (Public 326), authorizing appropriations under the Weeks Act for the acquisition of forest lands as follows: $2,000,000 for the fiscal year beginning July 1, 1928; $3,000,000 for the fiscal year beginning July 1, 1929, and $3,000,000 for the fiscal year beginning July 1, 1930. An appropriation has been made of $2,000,000 for the fiscal year beginning July 1, 1928.

Act of May 12 (Public 374), conditionally granting for the Bryce Canyon National Park 5,040 acres of land now within the Powell Forest.

Act of May 18 (Public 425), authorizing an appropriation of $150,000 for the acquisition of privately-owned lands within the Absaroka and Gallatin National Forests for the purpose of providing winter feed facilities for the elk, antelope, and other game animals of Yellowstone National Park. No appropriation was made under this law.

Act of May 22 (Public 466), the McNary-McSweeney Act, authorizing appropriations to carry on research work in forestry.

Act of May 26 (Public 519), authorizing an appropriation of $7,500,000 for the fiscal years ending June 30, 1930, and June 30, 1931, for forest roads and trails.

Act of May 28 (Public 555), the Welch Bill, amending the salary rates for civilian employees of the Federal Service.

Act of May 29 (Public), appropriating $25 to pay W. H. Kaufman for damages sustained by reason of a Forest Service airplane landing in his clover field.

ON A PAR WITH "PLUS FOURS"

By Alva A. Simpson, Custer

A visitor called today requesting information concerning a Junior Forester examination for vacancy in the National Park Service. It appears that he had been a regular reader of the Bulletin Board in the local postoffice and noticing an announcement of this examination interpreted the word "Junior" literally. After a brief explanation of the scope of the examination, his question was, "What does a Junior signify? Doesn't it mean elementary, and if so should not the examination be easy?" The word Junior had appealed to him as indicating an elementary examination and on the "lure" of the word he filled out his application but fortunately saved his $2.00 in medical fees by a brief call at the office.

All of which leads to comment on Colonel Peck's proposed titles as outlined in the March 26, 1928, Bulletin. Until today I was opposed to the suggested changes but I now realize the need for a revision. Imagine a dignified graduate of Yale or Harvard with several years experience in the Service, and the acquisition of gray hairs or a depreciated yield on his dome, being called elementary, and yet Colonel Peck wants to retain this term as descriptive of this class. The poor Forest Ranger is to become Forester - midway between the elementary Forester and the Senior (aged in the wood) Forester. The Supervisor is to lose his dictatorial title and become a mere manager, just the same as the hired foreman of some fruit farm or grocery store, and the District Forester falls another notch, from a position comparable to the District Ranger to one identified with the Grazing division. Perhaps in another twenty years he will be Unit or Allotment or Block or Chance Forester. But, in the words of the Two Black Crows, "Who cares about that?", his title is not generally known to the public and any mere change in title will not detract from the responsibilities of his position. The Forest Ranger is known, has been sung, enveloped in poetry and prose, is romantic, publicly recognized, and after all, the title is descriptive, whether riding the trails as in the old days or inspecting ranges in his automobile today. Tomorrow perhaps he will still range - in an aeroplane.

COOPERATION THAT COUNTS

The receipt, from Lou Barrett, of a copy of the bulletin "Auto Camps, Courts and Campgrounds of California," compiled and published by the Outing Bureau of the Automobile Club of Southern California, again brings to attention the unusual degree of cooperation which the Forest Service receives from this organization. Of the publication, 12½ pages are devoted to National Forest campgrounds, of which 142 are described in detail. Also there are 3 other pages devoted to fire warnings, six rules, etc., while each of the first 6 pages carries as a footnote a slogan about fire prevention.

The Automobile Club of Southern California probably is the largest State organization of its kind in the country. Its financial resources are proportionately large. For many years past it has recognized the important services rendered its members by the National Forests and in its budget it has provided for activities by which such services are reciprocated. One of its largest contributions is in connection with the signing of National Forest roads, trails, headquarters, and points of interest. The Forest officers advise the Club of the points where signs are needed within its territory and can proceed with almost absolute certainty that the next time the Club's sign truck is in the vicinity a high grade, properly worded sign will be installed at the designated point in first-class manner. To other Districts which may envy this soft snap, it may be pointed out that this cooperation was not wholly a volunteer growth; it was developed by hard and patient work. - L. F. K.

FIRE PREVENTION PAYS THE CAMPER

A fishing party on the Santa Fe Forest ended their trip in unusual fashion. The party of two men and three women left camp Sunday morning, leaving their camp fire burning. Shortly afterwards they saw a big smoke and returned to find about an acre of fire surrounding the camp, with their camp and car in the center of the blaze. The party controlled the fire with green boughs and sticks. Nothing was saved - camp, car, and everything, except the clothes they had on, were burned. They were seen later going out in a rented car, sadder but wiser on the subject of leaving camp fires unattended. - District 3.

GEORGE KEPT A DIARY

By E. N. Munns, Washington

George Washington's diaries have been published and furnish in themselves a picture of the Colonial days. They show Washington's power of observation, his willingness to experiment and try new things, and his desire to improve the methods of cultivation then in vogue. Washington recognized that through experiments came better practice, through experience came perfection, and apparently he strove constantly to develop his land to its utmost productivity. The diaries are those of a farmer, rather than of the Washington usually portrayed in biographies, though there is enough other matter to give a wonderful picture of the man and his times.

His diaries are full of interest, and in going through them one could not help but wonder whether sometime those diaries we are now keeping will be just as interesting - perhaps more so. Certainly the importance of retaining both one's official and personal diaries as a matter of record and history cannot be overlooked.

But let us see a few observations! That the City of Washington in March has some disadvantages is shown by the entry for March 9, 1785.

"A great deal of rain fell last night and the heaviest sleet I ever recollect to have seen. The bows of all the trees were encrusted by tubes of ice, quite round, at least half an inch thick, the weight of which was so great that very late transplantations (these were both fruit and ornamental trees) in many instances sunk under it either by bending the bodies of the young trees, breaking the limbs, or weighing up the roots. The largest pines in my outer circle were quite oppressed by the ice; and bowed to the ground, whilst others were loosened at the roots, and the largest Catalpa trees had some of their principal branches broken."

What George thought of the weather, as has many another, and as men will perhaps continue to think for many years yet to come:

June 2, 1786 - "More clouds and wet weather, and less sunshine never happened in the same time, in this country before. Truly the climate is changing."

All through the diary are references to trees planted about his estate.

"Sowed some honey locust today" ..... "Honey locust coming up irregularly, whether owing to shallowest planting, hardness of ground, or not I cannot say." .... "Planted honey locust in one row...very good to make hedges and inclosures for fields."

Planted .... "the Seeds of the Piramidical Cypress, 75 in number, all of which with others were presented to me by Mr. Michaux, Botanist to his Most Christn. Majesty." (This was in return for many favors the French Botanist received from G. W.)

Washington's cash account under date of April 23, 1793: "Paid Dr. Collins one-fourth part of the President's Subscription toward enabling M. Michaux to explore the Western Country to the South Sea 25. dols."

Meterologists have told us that the vicinity of the District was free from high winds, although in the past few years, very high winds have been experienced. Washington records on July 24, 1788:

"A very high No. Et. Wind all Night, which, this morning, being accompanied with Rain, became a hurricane, driving the Miniature Ship Federalist from her moorings, and sinking her, blew down trees in the groves and about the houses, loosning the Roots; and forcing a great many others to yield, and dismantling most, in a greater or lesser degree of their Bows and doing other and great mischief to the grain, grass, etca., and not a little to my mill race. In a word, it was violent and severe - more so than has happened for several years. About noon the Wind suddenly shifted from No. Et. to So. Wt. and blew the remaining part of the Day as violently from that quarter. The tide about this time rose near or quite 4 feet higher than I have ever known it to do, driving Boats, etca. into fields where no tide had ever been heard of before."

HELP YOURSELF (FOR MEN ONLY)

By A. O. Waha, D-6

Are you ever sick? The majority of Forest officers if asked this question would probably answer: "Rarely, if ever. Of course now and then I have colds, but they don't amount to much". If one should then ask, "Do you carry health insurance?" would the majority say "Yes"? They would not.

Field officers as a class are accustomed to taking chances. Getting in a tight place now and then is just a part of the day's work, provided, of course, one is fortunate enough to get out of it. So what's the use of worrying about your health and paying out hard-earned money for insurance when you have gotten by without any trouble so far? I'd reply to that by asking: "What's the use of anything"?

Procrastination is our middle name when we think (if we ever do) about insurance. I owned a good watch dog and saw no necessity to take out any burglary insurance. Nobody could get in our place when the dog was in the house - I'd bet on that. But it was simple for a burglar to enter when the family, plus the dog, were absent. And one did. And I found myself without any clothes except my uniform which I happened to be wearing (it was a sorry looking affair as most of them are, you know, and I felt rather disappointed in not having left it home). Then I marched down town and bought a burglary insurance policy--and some clothes. Since then, I've paid out over a hundred dollars for this insurance but have not had another visitation regardless of the crime wave. And I still have a good watch dog. Moreover, I have a feeling of security.

Regardless of the ubiquitous life insurance agents, I am told that the field is scarcely scratched. Even of the relatively small number of those carrying insurance, only a small percentage of them carry what they should. Were it not for the agents who are the last word in "follow-up," the average man would pass up all thoughts of an insurance policy, unless there happened to be an urge of some kind, among which might be a wife who is thinking of a future work plan, while her husband is adhering to his daily job list.

This brings me to what I want to say. At some time or other, you have heard about the Government Employees' Mutual Relief Association. The chances are good that you would know all about it if the Association were handled like a commercial company. Agents would have called on you and when you were convinced they had the better of the argument, you would have signed on the dotted line (and lived happily, or rested easier, ever after.)

The Association doesn't go out after business like the outfit that sells the Comfort Sleeping Bag, i.e., to circularize the field at regular intervals. To do this would probably cost more than it feels it can afford; it no doubt needs all of its surplus to pay allowances. There may be no urgent necessity on the part of the Association to increase its membership. So far as I know, it is a good going concern. However, the average age of its members must be quite a bit more than when the Association was formed. If this means anything, there is now more sickness and more deaths than twenty years ago.

Having been a member of the Association since its formation, I am naturally interested in its welfare. I am also interested in my own welfare and that is why I continue to pay my $12 per annum. I've paid in much more than I've taken out, for which I'm duly thankful. Certainly, it is worth $12 per year to your peace of mind. Should you be ill for some time and have a large doctor's bill to pay, you'll have to do a lot of skrimping to pay it out of your "living" wage, and even with a "saving" wage, the chances are not so good that you would have something saved up for the rainy day. The fact that we are getting "living" wages instead of "saving" wages is all the more reason for taking out all of the insurance you can afford. The Association was formed for our benefit and we should support it for our own benefit.

This is not intended as a sales letter, but if you want to take it as such, it's perfectly all right with me. But I can't enclose application blanks--if you are at all interested, you will soon learn, if you do not already know, where you can get one. For your own sake as well as your family's, I hope you will get interested. The Service insists that you exercise forethought in your official work; the application of that principle in your private affairs will be advancing your interests, which you will admit is not such a bad idea.

RESEARCH CONFERENCE

Representing the principal western District Offices and Experiment Stations and the main office at Washington, D. C., executives of the U. S. Forest Service gathered at the Forest Products Laboratory, Madison, Wis., June 4 for their annual research conference.

The purpose of this yearly conference is to consider and map out the wood utilization investigations to be conducted by the Laboratory during the ensuing year. Many of these studies embrace forest management and silvicultural practices as well as problems having to do with the mechanical, physical, and chemical properties of wood; and an increasing number of those applying to milling and manufacturing are carried on jointly with the research officers in the various National Forest districts.

Those who participated in the research program conference besides Laboratory officials included Earle H. Clapp, Assistant Forester in Charge of Research, H. S. Betts, and R. E. Marsh, Washington, D. C.; E. I. Kotok, Director, and C. L. Hill, forester, California Forest Experiment Station, Berkeley, Cal.; C. M. Granger, District Forester, and W. H. Gibbons, In Charge of Forest Products, Portland, Ore.; M. I. Bradner, Chief of Forest Products, Missoula, Mont.; Col.

Allen S. Peck, District Forester, and E. W. Tinker, Assistant District Forester, Denver, Colo. - News Note, Forest Products Laboratory.

DEATH OF RANGER WM. A. LaSATER

By G. D. Brown, Fremont

William A. LaSater died at Billings Ranger Station, Silver Lake, Oregon, on May 20. The Forest Service has lost a most faithful and efficient Ranger and the community a good citizen.

During the fall of 1927, Ranger LaSater had the misfortune to fall from a barnloft and strike on his head. It is not known whether or not this fall caused the brain tumor which affected him for several months prior to the time that he was taken to Protland in January where an operation was performed. After the operation it was first thought that he might recover, but he gradually grew worse and was moved back to Silver Lake on May 9. He was buried at Silver Lake. The funeral was attended by practically every person in the vicinity and for miles around.

Mr. LaSater was born in Black Springs, Texas, February 23, 1877, and at the time of his death was past 51 years of age. His father, George LaSater, was a large and successful stock raiser of Texas and "Bill" was raised as a cowman on a Texas ranch. Little is known here of his early life aside from the fact that after leaving home he handled some large cow outfits in Texas, Wyoming, and Montana prior to the time that he came to Oregon about 1909. Here he was employed in the handling of stock until 1911 when he entered the Forest Service as guard, serving alternately in the summer as Forest Guard and in the winter as Deputy State Game Warden. He also held a commission as Deputy Sheriff of Lake County for several years during this time.

In 1916 he was appointed Ranger and 1918 District Ranger in charge of the Silver Lake district, where, by his integrity and fair dealings, he won the friendship of the majority of the Forest users and the respect of all.

In January, 1917, he was married to Myrtice Colson. They were former boy and girl sweethearts in Texas, but became separated and had not seen each other for 17 years. Both Mr. and Mrs. LaSater had been married before. He leaves besides his wife, a daughter Louise, seven years old.

WANTED

The Forest Products Laboratory Library, Madison, Wisconsin, wishes to obtain copies of these three out of print bulletins:

"Experiments with Jack Pine and Hemlock for Mechanical Pulp," by J. H. Thickens. (Forest Service unnumbered bulletin, 1912)

"The Grinding of Spruce for Mechanical Pulp," by J. H. Thickens. (Forest Service Bulletin 127)

"Ground Wood Pulp," by J. H. Thickens and G. C. McNaughton. (U. S. Dept. of Agriculture Bulletin 343, parts 1 & 2)

"ONE FORD FREE WITH EACH TWO CARLOADS"

Arrangements were made with the Ford Motor Company, through their Seattle plant manager, to ship the cars and trucks required by the Forest Service in this District direct from the Detroit plant. This arrangement permits of taking advantage of the reductions in freight rates on account of the land-grant railroads serving this region.

The first carload under this arrangement has been received. The net saving on freight amounts to $215. Another car is due June 1.

The cost of a Ford light truck with bumper is $402, Detroit. O. C. BRADEEN, D-1

Service Bulletin

U.S. FOREST SERVICE

(Contents Confidential)

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PROGRESSIVE FORESTRY

By Austin Cary, Washington.

In these days, in some sections at least, one is liable to run across a case of timber growing (forestry if you choose to call it so) most any time, and that is one of the things to be grateful for. Others may be encouraged by a couple of instances recently encountered by the writer.

Chipley, Florida, among other things is a turpentine town, center of operation of several representatives of that much talked down industry. A man locally acquainted, however, introduced me to an operator reputed to be a forward-looking man, one who had thinned young growth in particular; I took occasion to go out with him.

He was a young man, not long in the business and starting without means. He had, however, bought a tract of land rather than leasing exclusively, and on this land he had as a matter of fact thinned the bunches of young timber. He had done it very nicely too as it seemed to me; at any rate his ideas and mine coincided. Impeding hardwoods he had cut down too, and he was a violent enemy of promiscuous and irresponsible fire. I was interested to ascertain how he acquired his ideas and pleased to find they were original with himself, unstimulated, far as I could learn, by outside agencies. They were not stopping with him, however. Criticised at first by his neighbors as impractical and visionary, these men were coming around; one or two were following him already. For my part, the best I could do was to confirm him in his ideas. The small expenditure he had made I believed would be returned to him many fold, that in it he had made the best sort of an investment.

Not far away, down on the Gulf Coast, I ran onto two men, a landowner and a turpentine operator leasing from him, who in a very unusual way were working harmoniously together. Agreeing that fire in the woods is a bad thing, a year or two before they had gone to work to combat it, controlling the hands in the operation, reasoning with the surrounding people, putting in plowed fire breaks on a considerable area. This had resulted well in the year of experience to date, and they were going further in the same direction.

More than that, one man with the idea of perpetuating his business, the other believing that timber growing presents the best outlook for future revenue to a large landowner, the 2 men were studying how to secure reproduction of timber on that land, large areas of which badly needed it. To this problem they are devoting some very pointed thinking.

One of the two as a land developer uses plows a good deal in his ordinary business; a favorite implement of his is a "brush harrow" so-called, tractor drawn, 8 disks in it, that cuts up a strip of earth 6 or 7 feet wide, destroying the wire grass or most of it. This applied to wild land would eliminate the fire risk pretty largely for some years; also it would make an ideal seed bed and it would stimulate the growth of pines that might take root on it. Part of this these men had seen for themselves; the balance was given to them. When the next seed year for slash pine comes round little doubt they will be found utilizing it. Young men again, what they start promises to come to generous fruition.

So it is going widely elsewhere no doubt; in fact we know it to be so. Conditions are right for the economic forces of the country to take hold of this matter of timber growing. These are as powerful forces as there are and most natural to us; they are shrewd and intelligent too when they get fairly to working.

THOSE RANGER CORRESPONDENCE COURSES

By Evelyn E. Kiene, D. 2.

Every once in a while, as witness L. I. Barrett's article in the April 23 issue, someone in other Districts comes forth and describes the correspondence ranger courses given by the Norton, Rayson, Mokane, or Warren Institutes of Denver and wants to know why the Government allows the public to be bunked that way. While these articles have always been polite, we read between the lines: "These schools are in Denver, why doesn't D-2 do something about it?" Possibly a resume of the situation might be of interest to the other Districts.

The first one of these schools coming to our attention was the Mokane, which began operations some three or four years ago. Their ranger course is conducted by a Mr. Bradley who probably honestly believes his course is of value in ranger work; he states he doesn't enroll any men who have not had the required practical experience. The Rayson Institute is operated by Ray Rennison, who, it is understood, was formerly connected with Mokane but had a scrap there and started a school of his own. Rennison knows really nothing about ranger work; apparently he will enroll anybody and everybody who has the price, and age limits mean nothing to him. So far as we have been able to learn, there is no such man as Norton; this institute is operated by a man named Cox, whom the local Civil Service Commission suspects of being the same man who was operating a civil service school under another name in Missouri and who was put out of business by the Commission. Warren is a new one, and we know very little about this school.

According to the Civil Service Commission, the activities of these schools can be stopped only if the mails are used to defraud. And they all carry a guarantee to refund the money, either if the man fails to pass two examinations or if he fails to secure an appointment within a specified time, which keeps the schools within the law and postal regulations. While their advertising is distinctly misleading, they do not make any definite false statements. So far as putting these schools out of business is concerned, our hands are tied.

The only thing we can do is attempt to force these schools to conform to the truth in their advertising, and to make them advertise their correspondence courses and not ranger jobs. Wherever we have learned of magazines or newspapers carrying ads of these schools, letters have been written to the advertising managers by the Secretary of the local branch of the Society of American Foresters, advising them of the misleading statements in the ads. Several magazines have discontinued the ads as a result of this information. The matter was also taken up last year with the Advertising Club of Denver, but since these schools are advertising largely in the East and Middle West, this Club was not in position to do very much. The Better Business Bureau, a national organization with offices in many of the larger cities, recently opened a branch in Denver and the matter was promptly taken up with them. We hope to accomplish something through this agency.

The Civil Service Commission made a

special review of the examination papers in the October, 1927, examination, with the idea of ascertaining how many of the applicants had taken correspondence courses. This review showed clearly that the courses were of little or no value. A very complete summary of the situation was made by the Commission, and printed copies were distributed widely, in the hope of reaching the various newspapers carrying the ads. In addition, the Commission issued a statement over the radio last month concerning the lack of value of such courses.

It is hoped that the publicity given the matter by the Civil Service Commission, the Forest Service, and the Better Business Bureau, will have the effect of either forcing the schools to discontinue their ranger courses or make their advertising conform to the truth.

FISHLAKE ON "SHOW ME" TRIPS

The following is taken from a letter recently received from the Fishlake:

"I believe better results will be secured if the activities of American Forest Week are followed up with well arranged 'Show Me' trips.

"The first noticeable result of the work performed by two Rangers on this Forest during American Forest Week was a 'Show Me' trip arranged by Forest Ranger Bert L. Robins. On Saturday, May 19, the Superintendent of Schools of Millard County, together with fourteen of his principals of schools, and three stockmen, by invitation of Ranger Robins, visited Oak Creek Canyon. To get the 'Show Me' trip started off right, Mrs. Bert L. Robins served an exceptionally fine lunch to the visiting school men and stockmen, and to Rangers Robins, Mace and Supervisor Mattsson. She was assisted in the serving by three other ladies.

"After lunch the visitors were shown what can be accomplished by artificially reseeding denuded areas with smooth brome and Kentucky blue grass by showing them the reseeding areas in the Radford Ranger Station pasture. Two years ago, approximately 10 acres in this pasture were cleared of sagebrush, plowed and sown to brome and blue grass. A good thrifty stand of grass of these species covers this tract, and outside the area, on account of the protection given, natural revegetation is taking place. Native wheat grasses, poas, stipas, and yarrow are coming in, and the pasture now has a high carrying capacity while two years ago it was predicted by a prominent stockman that there would never be enough feed in the pasture to support one horse overnight.

"Areas outside the pasture were also visited and judging from the fact that wheat grass, poas, and other forage plants are becoming more numerous and thrifty, it is evident that improvement in range conditions is taking place. Up to the date of the 'Show Me' trip, no cattle had been in Oak Creek Canyon and Ranger Robins stated that it would probably be June 15 before any stock were allowed to enter. Mr. Edgar Nielson, President of the Oak Creek Association, explained the methods adopted by the stockmen to secure proper distribution of the cattle on the range, and to prevent the grazing of the range until the forage was sufficiently advanced to be grazed.

"A check of the western yellow pine trees planted a year ago was made and this check showed that there was survival of better than 90 per cent of the trees planted, and that these trees were in a thrifty condition.

"After visiting the western yellow pine plantation of 1927 and the brome and blue grass reseeding areas, the party returned to the station, where Supervisor Mattsson gave a talk on range management.

"The members of the 'Show Me' trip were then served with oranges, bananas, and cake.

"A timbered area was then visited down the canyon, where Ranger Mace demonstrated the use of the increment borer, cruiser's stick, and gave a talk on tree growth and the policies of the Forest Service with reference to timber cutting and removal.

"The 'Show Me' trip was concluded by visiting the western yellow pine plantation which has repeatedly been favorably reported upon by visiting Forest officers. Approximately 20,000 trees were planted in 1914, and there is now a survival of better than 70 per cent. The trees range in height from two feet to fifteen feet, and present a very fine appearance.

"Ranger Robins explained how the planting work is done, and the results of the 1914, 1927, and 1928 plantations. During each of the last two years, 1,000 trees have been planted in Oak Creek Canyon.

"Words of appreciation were expressed by the visitors and Forest officers, and the visitors returned to their homes. Since then the trip has been favorably discussed by the school men and stockmen and commented upon by a large number of people. The principals of schools stated that what they had learned on the trip would be used in the schools over which they have supervision." - D. 4. Daily News.

INTELLIGENCE, AND INTELLIGENCE TESTS

By L. B. Pagter, Mount Baker

Reference is made to an article by District Forester Morrell, in the Service Bulletin, concerning examinations to determine the fitness of individuals for advancement. It recalls to my mind a long series of intelligence tests that were given in the Army during the late War, where occasionally a second lieutenant ranked among the division commanders in his ratings, but for quite obvious reasons lacked experience necessary for a division command and was never given the opportunity to handle the division.

I recall also where a discussion arose with regard to merits of a former Forest officer and his successor on an important timber sale. The first had had forestry school training and had a very good knowledge of the principles of forestry. The second had only a common-school education but good judgment and a desire to learn all he could about his work. The first officer failed in the administration of his sale, particularly in the marking. The second officer was a decided success, especially in his marking, all within the field of technical forestry. The Assistant District Forester stated that there was a good example of one man not using what he knew and of another man using what he knew to a great advantage. The point is simply this: An examination either oral or written may determine a man's faculty of expression, or his theoretical knowledge, and in a measure his judgment, but it makes no allowance for years of experience or of actual work accomplished, which are after all the best measure of a man's qualifications for bigger jobs. There is unquestionably much room for improvement in our present method of rating officers.

I believe that some record of actual accomplishment should be embodied in the method of rating Forest officers for advancement, at least as a check against ratings based on other factors. Perhaps Morrell only intended the examinations as a spur to continued study and research in our profession in order to prevent our going stale.

NEW NAMES FOR OLD

By W. E. Lockhart, Lewis & Clark

According to Mr. Peck's article in the March 26 issue of the Service Bulletin, I would be barred from any comment on the proposed change of title of the men who are the backbone of the organization. However, at the risk of some criticism, I wish to offer my bit in defense of the title of "Forest Ranger."

Most of the men of the Service have been known by that title at some period of their service and the people of the West generally regard all of us as Forest Rangers, regardless of what our payroll-titles may be, and it is with a sense of real pride to most of us I believe, regardless of what our rank may be, to be referred to as a Forest Ranger. Why not? It conveys the impression that the party addressed is considered a real "he-man" of the woods and range rather than a swivel-chair artist. Perhaps the word "Ranger" was copied from the Texas Ranger but that today is in use in a rather restricted territory. That others have more recently applied that portion of the title to National Park employees and others is no reason that we should abandon the title by which the people of the West have long known the men of our organization generally. It matters little by what name the rest of the organization is known but we could not in a lifetime change this one and I sincerely hope that it is not attempted.

SUMMARY OF MOTION PICTURE REEL SHOWINGS

A summary of the report on motion pictures shown in this District from October 1, 1927, to May 1, 1928, shows that seven reels were shown 120 times to 22,373 people. - D.4 Daily News.

SOMETHING IS HAPPENING

By Jno. D. Guthrie, D.6.

The Siskiyou region in Southern Oregon is one that is different. It has the most unusual fauna and flora of any similar area on the Pacific Coast. Rare and unusual plants, trees, shrubs, and animals (wild and human) are found there. It has long been a "hot spot" (see Headley's new Fire Glossary) when it came to forest fires. Light-burners and incendiaries seemed to live and thrive in that region. Maybe all this can be blamed on the slogan which Grants Pass has adopted- "It's the Climate".

The forest fire record on the Siskiyou Forest in that part of Oregon in past years has been nothing to be proud of. Man-caused fires for the period 1923 - 1927, inclusive, have run something like this:

Year	Man-caused	Incendiary	Total No. of all Fires.
1923	26	12	29
1924	57	17	123
1925	43	11	57
1926	30	1	30
1927	17	1	24
5 years	173	42	263

The previous 10 years is much blacker than the above.

However, something is happening in that country. Maybe it's luck; maybe public sentiment is becoming aroused, maybe public relations is paying. In any case, the Forest Supervisor is giving the local people the credit for the change, which at least is good psychology. Last fall, after the Siskiyou's most successful forest fire season, he sent the letter below to 30 postmasters in towns in and around the Siskiyou:

"The Forest Service takes this means to express its appreciation of the care taken with fire in the forests by the patrons of your office during the past season.

"Only 24 fires occurred on the Siskiyou Forest this year - the smallest ever known. Some of the districts had none. This record is due to care with fire by the individual, a united public opinion in favor of a smokeless summer for our tourists and to a growing desire to protect the timber for our future needs.

"Of the 24 fires, 17 were caused by man and 7 by lightning. Of the 17 man-caused fires, 10 were due to careless smokers or to camp fires left burning.

"This letter is intended as a personal letter of thanks to all who read it and have helped in bringing this about. May I ask you to post it on your bulletin board?"

Yes, something is happening on the Siskiyou!

THE STUDY OF FOREST SOILS

Dr. Fr. Weis of the Royal Agricultural College, Denmark, Chairman of the Forest Soils Section of the International Soils Congress held in Washington last year had this to say of forest soils work:

"It is impossible for the student of forest soils to confine himself to a single field of forest soil problems. Many must be considered simultaneously and (in each problem) several methods used. And just as practical forestry in most instances, differs from practical agriculture and horticulture and requires a very different training, the scientific statement of the problems and the method of research for their solution are different from those used in field and garden soils.

"The scholar wishing to work scientifically and independently with the problems of forest soils should be thoroughly trained in the methods of investigation of natural sciences (geology, physics, chemistry, botany, zoology, and microbiology), and possess intimate knowledge of practical forestry. There is probably no other branch of agriculture where intimate cooperation between applied and pure science is so necessary."

THE EDITOR DISCOVERS

Major Stuart has been appointed by Secretary of Commerce Hoover to the vice chairmanship of the National Committee on Wood Utilization, an office recently resigned by Colonel Greeley.

Mr. Sherman startled visitors to his sanctum the other day by the display of an elaborate multicolored hood. Inquiry developed the fact that it was the distinctive symbol of the honorary degree of Doctor of Science which has just been conferred upon him by his Alma Mater, the State College of Iowa. Mr. Sherman thought it was more than a coincidence that the honor was conferred on him on June 11, the birthday, as everybody knows, of the Forest Homestead Act, of which Mr. Sherman was the foster father, guide, counselor, and friend from the days of its early childhood to its present stage of maturity

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In the room of Miss Judson, Appointment Clerk, a small army is mobilized working busily on the compilation of the lists and recommendations for carrying out the Welch Act. It is expected that this material will go to the Department within a few days, and there is no reason to fear that the whole transaction will not be completed in time so that the salaries of July 15 and 31 will be made to include increases under the Act

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Major Stuart left Washington on June 15 for an extended trip through the western Districts. He expects to be gone until the first of September.

At the last Service Meeting, Mr. Kneipp announced that for the past five months he has daily been confronted by approximately 100 pounds of reports on National Forest taxation, but because of the pressure of other work has been unable to do anything about it. The cessation of other activities following the adjournment of Congress and the general exodus to the field will now permit him to concentrate on the taxation reports, with a view to getting them in shape for more general use. Several doubting Thomases were disposed to question the 100 pound statement, but after looking at the collection and tentatively essaying to lift one corner of it they finally agreed that the estimate was conservatively stated.

The delay in getting this material into shape for general use does not, however, mean that it has not already been of tremendous value. The first use was in the preparation of an extended report upon Senator McNary's bill S. 1180, which proposed to increase the State share in National Forest receipts from 25 to 50 per cent. Senator McNary, who incidentally is Chairman of the Senate Committee on Agriculture, made some caustic comments to Colonel Greeley regarding the length of the letter, but concluded by stating that, in view of the facts presented, he had decided to take no further action with reference to his bill, at least for the present. Since that time material which has reached the Washington office indicates that some of the Districts are making excellent use of the results of the tax study in meeting local problems.

NEW TREATING PLANT FOR DENVER

Construction of the one-half million dollar plant of the National Lumber & Creosoting Company on the sixty-acre tract near Utah Junction, is under way and the work is expected to be completed and the plant in operation by September 1. From five hundred thousand to one million railroad ties will be treated in this plant annually as well as other forest products. The National Lumber and Creosoting Company has a treating plant at Salida, Colorado, which is now treating railroad ties for the D. & R. G. Railroad as well as other forest products. They also have plants in Kansas City, Missouri; Texarkana, Houston, Texas; and Cincinnati, Ohio. --M. W. Thompson, D. 2.

SCIENTIFIC VERSUS COMMON PLANT NAMES

By R. S. Campbell, Jornada Range Reserve

Ranger A, "That plant right there is bladder pod."

Ranger B, "No, that's rattleweed."

Ranger A, "No, I'm sure it's bladder pod, *Astragalus allochrous*."

Ranger B, "Well, you may be right but we call it rattleweed around here. Our bladderpod is a little gray plant with yellow flowers; don't know what the H--- the scientific name is."

The foregoing dialogue is similar to thousands of actual conversations which have taken place all through the Forest Service. Such uncertain knowledge of plant names indicates two things: first, the inadequacy and inaccuracy of common names; second, the need for a more thorough knowledge of taxonomic botany in the Service.

There is sufficient difficulty involved in establishing scientific names for plants, without magnifying the confusion many times by attempting to find universally recognized common names. Some people may argue that the scientific names are subject to change, or that they are difficult to remember. All that is very true, but common names must always be referred to the scientific names for definite identification. Moreover, there is a maximum number of names which any person is capable of remembering. Why have both the common and scientific names when the scientific alone will suffice, and that so much more definitely and uniformly than common names will ever do?

But, argues the common name advocate, we must have common names for use by the laity, and for the majority of the Service personnel who have had little or no botanical training. Few stockmen care to know anything about plants beyond their forage value. A great many of them call all herbaceous plants by three standard common names, depending on the color of the flowers: "Yellow top", "Purple top", or "White top." Those stockmen who are interested enough to wish to know the name of a plant at all, are usually glad to know the scientific name. As for the Service men who have had little botanical training; something is wrong with them if they are satisfied to know only the local, or even the standardized common names of plants with cally every ranger station has some sort of which they must deal continually. Practi- an herbarium, and the plant identification service maintained by the Washington office should be made use of freely by the field.

GERMAN MANUFACTURERS VISIT LABORATORY

Sixteen German lumber dealers and furniture manufacturers, who are touring the United States to inform themselves regarding American wood utilization methods, recently visited the Forest Products Laboratory at Madison, Wisconsin.

The Germans devoted considerable time to the wood gluing division of the Laboratory and to the kiln drying section. The visitors were particularly interested in getting information on the relative progress of Germany and the United States in lumber drying processes and in technical details having to do with drying methods and apparatus. They were also keenly interested in the work the Laboratory is doing in treating wood to prevent decay. - Forest Products Laboratory News Note.

"TRAILS IN MOUNTAINOUS REGIONS DO NOT DAMAGE NATIONAL PARKS"

(Translated by E. J. Hanzlik, D-6)

The following is taken from the Swedish forestry publication "Skogen" of January 1, 1928, page 16:

"The Royal Academy of Sciences has made the following statement regarding proposal by the Swedish Nature Protection Association that the building of ways and trails in national parks be prohibited:

"A conservative, well-thought out plan allowing for trail construction indicates in no way to the Academy's manner of thinking that any damage will be caused to the National Parks. On the contrary, a concentration of travelers to certain fixed routes greatly lessens the influences of man in such areas in general. Regarding in particular the greatly lamented trail from Abisko to Kvikkjokk, the Academy has approved this plan for a route through certain minor portions of the National Parks for the reason that the trail in question will make available for tourist travel some of the wildest and formerly most inaccessible areas for the reasonably skilled mountaineer. To a great extent, this trail is located entirely outside the park area.

"The Academy also makes a statement regarding the proposal of the provincial board of Gotebergs lans for a National Park of Rya Forest, as to whether it is desirable to create one in such close proximity to a large community, where cultural influences are surely to be feared. The Academy, which regards with favor this desire that protection be afforded this particular area, feels that this end may be attained in a similar manner by setting aside as a nature protection area."

NO SMOKING

(Editorial, San Francisco Call)

If the cigarette manufacturers were like our versatile, energetic power trust, they would start a campaign of public education against the United States Forest Service, which has ordered: "No smoking in National Forests after June 10, except in camps or at places of habitation, under penalty of fine or imprisonment or both."

They would shout throughout the country: "By what right does the government forbid freeborn American citizens the privilege of smoking in their OWN forests? WHO says an American is not to be trusted with a cigarette in his hand, shall not be allowed to smoke in his OWN automobile?" They could, but they won't.

It is quite probable that the order against cigarettes in National Forests will cut the sale of cigars and cigarettes slightly through the summer vacation months. It will also save hundreds of thousands of acres of fine, beautiful timber land - which would otherwise go up in smoke because some careless idiot on vacation is just "dying for a smoke." The order is a good one. - D. 5 Bulletin.

CARNIVOROUS COWS AND SHEEP IN LAPLAND

Apparently range reconnaissance men should be happy they don't work in Lapland where palatability figures and carrying capacities appear to be rather complex. After describing how reindeer in that country get away from their owners in their avid hunger for lemmings, R. Ruggles Gates (in "Notes on the Tundra of Russian Lapland," The Journal of Ecology for February, 1928) makes this intriguing comment on the dietetic yearnings of domestic livestock:

"The Lapps keep cows as well as reindeer, and the former, in addition to their 'tree hay' (i.e., cut and dried branches of birches and willows), are fed on fish entrails which are collected for the winter and mixed with the leaves. The mixture reeks horribly but the cows like it. I am told that it is impossible to remain near while it is being fed to the cows, and the milk tastes of it. On the Murmansk coast the cows also eat seal meat and drink fish oil. The sheep eat the carcasses of seals (Phoca) left on the shore after the skin is removed. They devour them like dogs eating the bones and leaving nothing behind." - Daytonius.

Service Bulletin

U.S. FOREST SERVICE
(Contents Confidential)

VOL. XII. No. 28 WASHINGTON, D. C. JULY 9, 1928

TRAINING FOR FOREST PROTECTION

By P. A. Thompson, Colville.

I have been much interested in the March, 1928, Journal of Forestry, particularly in the discussions under "Notes" by various men at the annual meeting.

The National Forests of the Northwest are now busy making up their summer forces. Every administrator is faced with the same perplexing problem, "Where can I get good men, dependable men, for my summer protective force, - men who know something of the woods - men who can handle a Class A fire - who can handle a crew on a fire". The success or failure of the permanent Forest organization for the year depends, in a large measure, upon the success met with in getting and training (?) a good temporary force.

In his discussions on page 390 of the Journal, Morrell, who is handling probably the most difficult fire situation in the United States, says, "I do believe that a guarantee of protection from fire is worth about nine times as much as anything that silviculturists have to offer in the way of insurance..." He was speaking particularly about the white pine region of North Idaho, but the statement is true, to a lesser extent, no doubt, in every forest region of the West.

In a paper "Is Forest Protection Taught in our Forest Schools?" C. S. Cowan, formerly with the British Columbia Forestry Service but now Chief Fire Warden, Washington Forest Fire Ass'n., recommends to the Forest Schools the necessity for teaching the general fundamentals of forest protection.

As an administrator responsible for the administration and protection of one of the many Forest units in the Northwest, I want to state emphatically that "Them s my sentiments".

Right now we are trying to take a lot of green human material, a large part of it young and relatively inexperienced, and weld it into a smooth-running protection organization which must function under both normal and emergency conditions. We pick those that appear to us to promise most, throw in a few pamphlets for study, add a dash of training, and, with a prayer on our lips and hope in our hearts, face another fire season.

Annually we are urged, nay instructed, to employ students from our Forestry Schools. What do we offer them and why? Usually we stick them on some lookout point where as a rule, they make good lookouts. But they do not secure much valuable experience for themselves, and they do not bolster up the weak spots in our organization for we usually can secure lookouts more readily than any other class of protective men.

What we need are good protective assistants, patrolmen, and fire chasers, but the average student cannot satisfactorily handle these jobs. Furthermore, the school terms are not so arranged that these students can work through the average season for us on these jobs say from June 1 to September 30.

If Morrell and Cowan's statements are correct, and they certainly appear well founded to me, it would appear that our colleges are overlooking an opportunity to aid both the students and the forestry organizations which are charged with the protection of large areas of timber and cut-over lands.

No doubt, many practical difficulties will present themselves, but why cannot the colleges make an effort to--

1. Include a dash of practical administration in their courses, particularly instruction in protection work.

2. Arrange their terms so that a Forestry student can accept employment from June 1 to September 30.

This would enable students to become almost self supporting through school and would give the harassed administrator a fertile field from which to select the short-term force upon which his success or failure largely depends.

A CALL FOR THE WILDS

By L. A. Barrett, D. 5

In the May 14 issue of the Service Bulletin, Manly Thompson of D. 4, expresses the opinion that the public do not want wilderness areas.

Perhaps he has lived in the wilderness so long that a little civilization would be a relief. Seriously speaking however, the writer is certain that Mr. Thompson does not voice the views of many Forest Officers of D. 5 or of a vast number of the residents of California. We are just completing the job of assisting the local officers on the Angeles and San Bernardino in preparing a recreation plan and policy statement for the future guidance of those Forests and are struck by the fact that in a mountain region which we remember as all wilderness 40 years ago it is today almost impossible to get out of sound of an automobile horn or out of sight of a building. And this is a condition which many of the people of California already deprecate.

The two big Automobile Clubs of California (with 200,000 members) the State Park Commission, the Sierra Club, the Associated Sportsmens clubs of California, numerous newspaper editors; many Chamber of Commerce officials; and hundreds of private individuals have assured the writer that they hoped the Forest Service would retain large areas of National Forest land in a virgin state and that they would back us up in keeping roads and other development out of such areas. Right now the State Park Commission is endeavoring to secure for State Park purposes large areas on the Colorado Desert. Even the desert is being "developed" and we Californians want to preserve some of it with its wonderful flora just as it was "developed" by nature.

Next November the voters of California will decide whether they will spend six million dollars to purchase State Parks and if the bonds carry (as is almost certain) part of this money will be used to buy and administer wilderness areas. This shows how we look at it in the most rapidly developing State in the Union.

Since this is the actual condition in D. 5, we will end up by having no wilderness areas if the policy suggested by Mr. Thompson is followed. Without a definite plan the present wilderness areas are doomed. So we cannot any too soon definitely determine what areas should be reserved for future enjoyment of those who want to get off the beaten path, and when these areas are once set aside, we should resist to the utmost any development therein that can be prevented.

The writer has for forty years enjoyed life in the open spaces of the West, and would greatly regret to think that his children and their descendants would see the day when there was a road on every ridge, a resort at every lake, and a string of summer homes on every stream. Maybe that is what some people want, but it is not what the far seeing people of California are striving for.

WILDERNESS VS. AEROPLANES

Ye Editor thinks it is time to have the Wilderness "ponents" "pro" and "o" consider the effect on our wilderness areas of privately owned and public ("bus") aeroplanes, and give, in the Bulletin, their views. - H.R.K.

THE KEEPERS OF THE FOREST

By Rich Thomson, White River

A small desk dictionary I have at hand defines the word "Ranger" as follows: "A rover; the keeper of a park or forest." I like that last part. My dictionary further tells me that a keeper is one who preserves, or saves. I like to remember that I have served many years of the best part of life as a keeper of a forest, helped to save and preserve it for someone to enjoy indefinitely as I have enjoyed it during life. What Ranger who has served over a period of years does not have the same feeling for his job, what one does not, and never will associate the job with any other name than that of "Forest Ranger".

In the words of my inquisitive small boy, "when did who say why we should cease to be called Forest Rangers and bud out as "Foresters"? I am wondering if the definition as given in my dictionary is responsible, this stating that "a rover" is a wanderer, a robber, or a fickle person. Tough accusation to argue down, men. No doubt in the long years as a Ranger you have been called all of these things, and more, by irate forest users. However, we all know that it was not because the dictionary defined ranger as rover; rover as a fickle person, wanderer, or robber. They had, or thought they had, far better reasons.

No doubt in the dim past our title name represented all the evils that the dictionary says of it. Even as late as twenty-one years ago, while serving as a Ranger here in the heart of the hornet's nest stirred up by the famous Fred Light grazing trespass case, I have often heard that the cowmen's wives quieted their children by telling them that the wild Rangers would get them if they didn't be good".

In 1776 we were all "rebels", worse than rangers, rovers, or robbers in the minds of our mother countrymen. We managed pretty well to "live that down" in the opinion of the other world powers, and with the becoming modesty due from a timid, publicity shrinking Ranger, I'M out to tell the WHOLE COCK-EYED WORLD THAT WE CAN AND WILL live down any stigma that may be attached to our title name. Lets have some more of the 1776 spirit, old timers and young. If you like our present title, one that has withstood the storms and winds of public opinion since the infancy of the Forest Service, let us be rebels again for our good cause. Lets beef, kick, holler, or even write Bulletin articles against any change in title name until such time as we can be shown that another is better.

LARGE PURCHASE PROGRAM APPROVED

At its meeting on May 23 the National Forest Reservation Commission approved one of the largest programs that has been submitted to it for sometime. Seventeen different National Forest purchase units contributed a total of 250 cases, aggregating 162,963 acres with an average value of $3.98 per acre, or a total of $649,160.

Considering its relative infancy in purchase work District 2 did quite well, with a total of 52 cases involving the acquisition of 37,685 acres of land for which, however the total cost was only $60,908. The majority of these purchases was on the Superior Forest, but the most recent addition to the National Forest family, the Marquette Unit, was started off with 10,840 acres, which is only a forerunner of the bargains expected from the Upper Peninsula. It now seems evident that when District 2 gets its purchase work fully under way it will become the active competitor of District 7 for such purchase funds as are available.

However, District 7 lived up to its well deserved reputation by offering 198 cases, through which 125,277 acres of land will be acquired at a cost of $588,252. As usual the Allegheny Forest was well up in the lead with 25,720 acres, but the Monongahela with a new burst of activity topped all the others with an acreage of 43,699. Among the District 7 Forests the White Mountain was third with offerings exceeding 21,000 acres, including one very desirable and important area which will markedly consolidate our present holdings.

It is hoped to secure the approval of the Commission to a purchase of 103 acres of the original Penn Woods, a stand of Virgin white pine and hemlock forming a part of the area known as Heart's Content within the Allegheny Forest, but in view of the large stumpage values involved the Commission passed this case over without approval, but left it in a status where its further consideration may be secured at a later meeting of the Commission.

ANOTHER JOB FOR MOSES' ASSISTANT!

By Ryle Teed, Columbia

After some ten years of freedom from accountancy worries I find myself stepping into them again - and it is marvelous what the work-makers have done for the job within this period.

A few months' experience with the coding system and its ramifications brings me to an appreciation of that condition mentioned in "An Efficiency Expert's Confessions", THE SATURDAY EVENING POST of February 4. He says: "The Federal Government ° ° ° (has) during the past ten or fifteen years gone in ardently for the collecting of useless information."

The once much simpler process of purchasing has also become delightfully involved and so surrounded with regulations, limitations, decisions, and rubber stamps as to constitute a specialty. Some of the decisions are particularly noteworthy and I am afraid in a few cases are costing the Government even more than the sad misuse of paper clips.

Nor is the artful touch lacking in making even the minor details mildly confusing. For instance, the "Unit Certificate No." takes first place on Form 79a and takes second place on the accompanying vouchers. Perhaps it was the same mind who also succeeded in hitting upon three different "catch as catch can" arrangements of the appropriations on the forms 79a, 19a, and 44, while we are expected to follow a fourth - the logical numerical order, on the 79b.

NEGLECTED PRINCIPLES

The estimated damage resulting from the breaking of the St. Francis Dam in the Angeles National Forest some two months ago reaches the staggering total of $9,316,000, exclusive of deaths and personal injuries according to the Engineering News Record of May 10.

Commenting editorially on the failure, the Engineering News Record says: "Incompetent foundation is the term that summarizes the findings of the cause of the St. Francis Dam failure. It is an apt term but does not fully satisfy. A more fundamental explanation is needed. Was it imperative that the dam be built on this foundation? And why were the numerous safeguards common to good practice neglected? . . . The St. Francis Dam disaster was more than the physical collapse of a great dam; it was the foredoomed failure of a false practice. It was the inevitable outcome of neglected principles that were well established in sound engineering. Time and again throughout the testimony before the coroner's jury and the other investigating bodies evidence of this appeared." The editorial goes on to recite the details of the neglected principles.

Neglected principles that are well established in sound engineering stand out as the underlying reason for this calamity. Drink in those words.

How like the findings of our several Boards of Fire Reviews does the text of this editorial run! The neglected principles that are well established in sound fire control engineering account for all of our big losses in District 7. The St. Francis Dam disaster should awaken us to a new determination to master and apply the Principles of the Fire Code. - Eastern District Digest.

MINNESOTA NEEDS LARGER FOREST FIRE PROTECTION ORGANIZATION

Education of the public to greater care with fire in the woods, and a permanent protective organization practically double that now provided, are deemed necessary to bring the forest fire situation under control in Minnesota, in the opinion of J. A. Mitchell of the Lake States Forest Experiment Station.

A bulletin, "Forest Fires in Minnesota", by Mr. Mitchell, has just been issued by the Minnesota State Forest Service, representing the result of a study of forest fires in Minnesota by the Forest Service in cooperation with the State Department of Conservation.

Minnesota averages from 1,000 to 1,300 forest fires a year, which burn over an average of some 400,000 acres annually. During the past ten years the direct property loss from forest fires has averaged over three and one-half million dollars a year, 432 lives have been sacrificed, and incalculable damage has been done to the soil, to growing timber, to wild life, and to local business.

Of Minnesota's 51,749,120 acres, approximately 23,500,000, or 45 per cent, are now in need of organized protection. While logging and fire have reduced Minnesota's forest resources over 85 per cent the State still has some $105,000,000 worth of merchantable timber, and is growing $2,750,000 worth of pulpwood and sawtimber annually. With adequate protection, not only the areas now idle would become to a large extent productive, but the average yield of culled over and second-growth lands would increase at least 50 per cent.

During the last ten years the average number of forest fires per year in Minnesota has increased more than 100 per cent but in spite of this the area burned over and the average size of the fires have been reduced through fire protection efforts of the State and Federal forest services and interested private owners. The annual property loss, however, still exceeds a million dollars. Ninety-nine per cent of the Minnesota fires, according to the records, are man-caused.

It is estimated that $650,000 annually will provide an adequate protective organization, with sufficient lookout towers and equipment, a trained emergency force, and ample funds for fire suppression. Of this $100,000 would constitute an emergency fund for fire fighting and emergency patrol to be drawn on only in abnormally bad seasons.
C.E.R.

GOVERNMENT TAKES TITLE TO THE HEAD OF MAD RIVER WITH GREELEY PONDS AND MAD RIVER NOTCH

On June 4 a check was transmitted to the Clerk of the Federal Court of New Hampshire for $997,978.22, the largest voucher ever transmitted in the purchase of a single piece of land as a part of an eastern National Forest. This signaled the passage of title to the United States of 22,944 acres comprising the Waterville tract on the head of Mad River, New Hampshire, which was acquired from the Woodstock Lumber Company a Parker & Young subsidiary.

This transfer increased the area of the Government holdings in the White Mountains to more than 525,000 acres. It adds to the National Forest and places under Government supervision the famous Mad River Notch and the beautiful Greeley Ponds, which with the slopes on both sides have been set aside as a scenic reservation to be kept in natural condition, the timber on which is not to be cut. The timber on the remaining land is to be sold but with the stipulation that no logging railroad shall be employed in moving it on account of its fire hazard. Furthermore, 15 per cent of the timber by volume is to be retained by the Government for seed trees and for additional growth as well as for protecting the scenic charm of this well known valley. - W. W. Ashe

RANGER GEORGE FARLEY RETIRES

On June 30 Ranger Farley of the Minnesota (now Chippewa) National Forest retired from active duty in the Forest Service.

From 1904 to 1928 George Farley served on the Minnesota Forest and under his supervision the Cut Foot Sioux district was logged off (under the Interior Department) and a new forest started. To relatively few of us is given the gift of watching our efforts bear fruit for over 24 years in one place. To exceptionally few is given the chance to see such wonderful results due to their efforts in the cause of forestry as have been accomplished by the work of Ranger Farley.

The present condition of the young timber on the Cut Foot Sioux district stands as highest evidence of Ranger Farley's wonderful work in the Service. If any of the rest of us can leave so wonderful a living monument of our accomplishment, proud indeed may we be.

Everyone in District 2 who has ever visited the Minnesota Forest will hear with deepest regret of Ranger Farley's retirement and both the official and personal loss to the individual members of the Minnesota force is something too keen and poignant for the bare printed page.

The very bright lining to this sorrowful news, however, is that Ranger Farley plans to continue to live adjacent to his district. In the prime of life and in the best of health Ranger Farley will stay at his beautiful cabin on Sand Lake where he can keep in touch with his many close friends in the Service and keep a watchful eye on his so carefully and excellently cared for district.

It is to such as George Farley a forester of the highest order in any line of woods work that the Forest Service owes its present greatness. He leaves behind him a living monument of his achievement on his district, in the form of many square miles of perfectly protected pine reproduction, which he can well be mighty proud of.

The very best wishes of the whole Forest Service go with Ranger Farley on his retirement. - Supervisor Hopkins, Minnesota, in D. 2 Bulletin.

COOPERATION WITH A KICK

The G-16 Garden Canyon Fence crew now located at the head of Garden Canyon on the Huachuca Crest is making good progress. This fence when completed will prevent the drift of the range stock from the forest on to the Garden Canyon watershed from which the Military Post derives most of its water supply. The Fort Huachuca Quartermaster donated the army pack train of 40 mules for packing wire onto the job. (Coronado Bulletin)

YE EDITOR DISCOVERS

In conferring the honorary degree of Doctor of Science upon Associate Forester E. A. Sherman on June 11, President R. M. Hughes, of the Iowa State College, made the citation:

"Upon you, Edward Augustine Sherman, forester advocate, executive, representative of our country in the affairs of our national forests; in recognition of your wide knowledge of the science of forestry, of your valued work in classifying our federal lands, of your distinguished services as a public official in charge of our forests; on the recommendation of the Faculty and with the approval of the State Board of Education, by the authority vested in me, I confer the degree Doctor of Science, causa honoris.

"In token thereof I present you with this diploma and invest you with the hood of your academic rank."

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On Commencement Day at the University of Michigan, Assistant Forester Clapp received the honorary degree of Doctor of Science. In presenting Mr. Clapp to President Little, Professor Winter said:

"Earle Hart Clapp, a graduate of the College of Literature, Science, and the Arts in the class of 1905, engaged continuously since then in the United States Forest Service, and since 1915 in charge of the Branch of Research. Under his leadership as a skilled investigator and administrator, work in widely diversified fields has been coordinated, regional experiment stations established, and research in the fundamental problems of forestry developed into a major activity of the Service. With a clear vision of the importance of forestry in the economic life of the nation, and the character and ability to transmute dream and vision into reality, he has achieved memorable distinction in promoting the public good."

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Perkins Coville has been appointed as Associate Silviculturist in the Office of Forest Experiment Stations. Coville will give particular attention to some of the broader problems of dendrology, such as tree seed, regional races of trees, and tree selection. He will also devote approximately one-half of his time assisting in the general administration of the Office of Forest Experiment Stations.

Coville comes to the Service from Iowa State Agricultural College, Ames, Iowa, where, since 1922, he has held the position of professor of forestry. He has had a wide experience in forestry work, having been employed by the Great Southern Lumber Company of Bogalusa, Louisiana, the James D. Lacy and Company, timber estimators, in West Virginia and Canada, and the Weyerhaeuser Timber Company of Tacoma, Washington, prior to his becoming a member of the faculty at Iowa State College.

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R. C. Hall, of the Forest Taxation Inquiry staff, spent the week of June 25 in the Washington office en route to Portland, Oregon, where he will join Dr. Fairchild and P. A. Herbert. A considerable part of the staff of the Forest Taxation Inquiry will make its headquarters at the office of the Pacific Northwest Forest Experiment Station throughout the summer and fall.

E. N. Munns has returned from a three week's trip through the Appalachian Forest Experiment Station's territory.

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We have unearthed a new writer in the person of C. E. Randall in charge of Press Work. Randall has promised to tell us how he does his stuff. We have on our desk three of his stories and we think they are good. The first one will appear in our next number.

GUARD TRACKS HIMSELF DOWN

Per diem guard Jim Kelly, on the Magdalena District, rode up the Water Canyon trail with his father J. P. Kelly, to Big Baldy on the morning of May 5, to work cattle on the south side of Baldy. Returning about 5:00 P.M. the same day they discovered a five acre fire burning up the slope near the head of Water Canyon. Kelly's first thought on arriving at the fire was to look for clews. The tracks which their horses had made that morning were the only clews visible. Knowing that his father did not smoke and knowing that he did, Kelly came to the conclusion that if the fire was man-caused he must be responsible and, inasmuch as there had been no lightning, it evidently was man-caused. Mr. Kelly paid a fine of $10.00 and $5.00 costs last Saturday and no doubt realized that it is a lot easier to start a fire in pine needles than a person would think. On this particular day, May 5, the ground underneath the needles was still damp from the inch rainfall on May 2. However, the needles on top exposed to the direct rays had dried out enough to burn and they did burn over five acres. The half-burnt remains of a match lying across the line of burnt needles showed the origin plainly enough. Moral for all of us: "Be sure it's out".- Datil Bulletin. Moral #2: "Hats' off to Guard Jim Kelley" H.R.K.

THE OLD ORDER CHANGES

In 1915, 106,560 ewes were lambed on eight Colorado Forests. In 1927, 23,393 were lambed on three Forests. Lambing on Wyoming and Colorado Forests, administered by D-2, in 1915 reached a total of 180,910. In 1927, for both States, it was but 40,503, a reduction of more than 77 per cent in the twelve year period.

Recognized as one of the more destructive uses of the forests and ranges, there has been a consistent policy toward eliminating lambing as rapidly as practicable. A few years more will no doubt realize that objective completely.

It hasn't been an easy thing to do. Customs established for fifty years or more were hard to change. Not a few complaints reached all the way to Washington during the process, but Forest officers knew in their own minds that we must stop this destructive use and they felt too that it would prove to the economic advantage of the sheep owners themselves to do so. Some figures were collected which proved beyond question that range lambing practices, in the Rocky Mountain District at least, were antiquated and must give way to the interests of sheep men themselves.

Recently I visited a section of the State where the idea of range lambing had been most strongly entrenched ten years ago. It has now been completely eliminated from forest ranges in that section and transferred to ranches, fields, and shelters. Not one sheep man in that locality would change back to the former method. Of course he wouldn't! He would be big money out of pocket if he did. -- J. H. Hatton, D. 2.

AFTER HIM, BOYS.

When better pine is grown, the Crater will grow it, and when better stands are cut, the Crater will cut them.

On more than 1,200 contiguous acres of cutover land on each of the Bear Creek, Anna Creek, and Owen-Oregon (West Side) sale areas, the amounts cut of western yellow pine alone have averaged between nineteen and twenty M. B. F. per acre. The average amounts left on the same areas do not, however, run so close together, for they average respectively, five, four, and three M.B.F. per acre. In other words, an average of about sixteen per cent of the original western yellow pine merchantable volume is in reserve at the end of cutting. - W. J. Sproat, Crater.

SCIENTIFIC PLANT NAMES

A recent request from the Jornada that the authorities for the scientific names of plants be included with the plant collection returns, elicited the information that such a request had never before been made of the Washington office. This fact shows the need for awakening a greater interest for taxonomic botany among the rank and file of the Forest Service personnel, the administrative men as well as the investigative. As Hitchcock says, "Taxonomy is fundamental in its relation to other branches of botany in the sense that the correct identification of plants is the basis for all work which concerns the identity of species." The necessity for knowing the names of plants with which one must work needs no elaboration to Forest Service men. The use of scientific plant names is the only method for avoiding misunderstanding and confusion. An application to systematic botany of the useful principle of 15 minutes a day would work wonders for most of us. - R. S. C., Jornada

GETHSEMANE CYPRESS TREES

Cypress trees from seed collected in the Garden of Gethsemane in the Holy Land are now growing in church yards and gardens in many parts of the country, according to State Forester Pratt. The seed was collected three years ago by Ansel Hall of the National Park Service and turned over to Professor Woodbridge Metcalf who raised the trees at the University of California forest nursery. A total of about 300 trees was produced. Half were distributed from Berkeley and half from the State Nursery at Davis, and reports are now being received of the satisfactory growth of these trees in many interesting situations.- D. 5 Bulletin

> In the administration of the forest reserves it must be clearly borne in mind that all land is to be devoted to its most productive use for the permanent good of the whole people. . . Where conflicting interests must be reconciled, the question will always be decided from the standpoint of the greatest good of the greatest number in the long run.
>
> James Wilson, Secretary of Agriculture
>
> February 1, 1905

Service Bulletin

Contents Confidential

VOL. XII. No. 29 WASHINGTON, D. C. JULY 16, 1928

WHAT AND WHY IS NEWS?

By C. E. Randall, Washington

"Can someone offer a suggestion on how to develop our 'news sense'?" asks Supervisor Horton of the Columbia in a recent article in the Service Bulletin. The prayers of the righteous should be answered, and, as no answer has yet been forthcoming, we'll attempt to offer a few Practical Pointers on Potent Publicity, for better or worse.

A "nose for news" seems to be sadly lacking in a great many individuals, and it is claimed by some that a man has to be born with one,-that good reporters, like poets, are born, not made. Perhaps so, but if this is true, I believe that a very large percentage of the populace are born with a news sense. The rapidity with which a choice bit of gossip will travel via the back fence route shows this. If each recipient of the bit of gossip did not recognize its news interest - perhaps improve its news value a little in passing it on - it would not get very far. Everyone shows a recognition of news value when he tells his acquaintance at a chance meeting that he "had an interesting experience today," etc., and that such-and-such "is going on in our neighborhood." He knows what will interest his friend. It is only necessary to develop this news sense so that he will know what will interest the public. The best of reporters has to learn the tricks in the beginning.

In our Forest Service publicity, however, we have definite purposes in view. With us, news is not the end; it is merely the vehicle on which to carry the real meat of our message. Our purpose is not to cater to public interest but to arouse a public interest that will lead to action in the promotion of forestry. There is little point in our serving merely as gratuitous correspondents for the newspapers to help fill their columns with copy unless that copy is directed toward a definite objective. The ideal in our press publicity work should be a please-all arrangement - give the newspapers material suited to their purposes, make it of interest to the public, but at the same time promote the development of forestry.

A thorough consideration of the lessons we wish to teach, of the matter we want stressed in our publicity, therefore, should precede the consideration of means of getting it before the public. The Forest officer should have clearly in mind the point he wants to emphasize to the public, so that when he gives out a news item he can tie it in with his objectives.

I think it is George M. Cohan to whom is attributed the statement: "Say what you want about me just so you mention my name." With modifications, that isn't such a bad maxim in publicity work. Since forestry publicity came into being there has been much both good and bad, but the net result, considering the public at large, has been the addition of the word "forestry" to the vocabulary of the average man of the street, although without any clear conception of its meaning. This is nevertheless a big accomplishment. When "Ivory Soap" has been made a familiar term with the public, its producers consider that they have gone a long way toward selling it. If another decade of well-directed publicity now can impart to the mind of the average citizen a rudimentary knowledge of the principles and purposes of "forestry" we will have gone far.

The important thing is to get our message before the public. But while we are saying it, we might as well say it effectively. In our press publicity this means that we must make it attractive to the newspapers and interesting to the public. Here is where the news sense comes in.

ANGELES FOREST SAFEGUARDED AGAINST FUTURE FRAUDULENT MINING CLAIMS

By L. F. Kneipp, Washington

The Act approved May 29, 1928, and designated as Public 578, marks a new epoch in the application of the general mining laws to National Forest lands chiefly valuable for purposes other than mining, as it withdraws from entry under the mining laws approximately one-half of the National Forest land within the Angeles National Forest, with provision, however, for the restoration to mineral entry of such part of the withdrawn lands as ultimately may be classified as of actual mineral value.

The Angeles National Forest may be somewhat short on trees, but it has more summer visitors per acre than any other Forest in the United States. From the great metropolitan area which lies immediately south of the Angeles the daily outpouring of nature lovers into the wilderness of the Forest will run from 10,000 to 100,000, or more, As a result, practically every acre of private land, including the June 11 claims, whose passage to private ownership has so wrung Lou Barrett's heartstrings, has been dedicated to summer home and resort purposes, with consequent valuations per town lot, into which most of them have been divided, of from $600 up, mostly up. Land that a self-respecting sheepherder would not believe worthy of a moment's thought in other sections registers in the $20 per acre class, with innocent potential purchasers standing in line feverishly awaiting opportunity to put their money down.

Under such circumstances the temptation to make an independent fortune by establishing title to some of Uncle Sam's territory is too great to be resisted, and since June 11 classifications would impose too great a strain upon the imagination of the most optimistic land classificationist, the alternative is to locate mining claims. The fact that there are no tangible mineral values known to exist within the Angeles Forest, and that the gold production of all of Los Angeles County averages less that $500 per year has been no discouragement. Los Angeles is filled with geologists, metallurgists, et al, with self-established qualifications of a superlative order, who for a nominal consideration will discover in almost any specimen submitted to them elements of outstanding value such as rare metals, colloidial gold, or beauty clay, or chicken grit, or as a last resort building stone. The aspirant to ownership of some of Uncle Sam's $20, $50, or $100 per acre and has had no trouble in finding a basis for his mineral locations.

As a result George Cecil, Ole Friedhoff, and Lou Barrett have been run ragged in their efforts to keep the Angeles Forest from evaporating into thin air, through the medium of hot air. Some enterprising promotors went so far as to lay out whole series of mining claims, divide them into 25 foot lots, and inaugurate hectic free lot campaigns, one of which resulted in a two year jail sentence for the party of the firt part. Numerous contests were initiated that have had disappointing outcomes in the face of what appeared to be incontrovertible evidence of fraud.

All customary methods having proved unavailing, District 5 as a last resort laid the matter before the various semi-civic and industrial organizations of Southern California, which were quick to recognize the serious menace to local welfare which existed in so gross an abuse of the mining laws. As a result, these agencies with the Los Angeles Chamber of Commerce taking the lead, gave their active support to a measure under which practically all of the land valuable for recreational or other-non-mining uses would be withdrawn from mineral entry. The bill was introduced in the Senate by Senator Shortridge and in the House by Representative Evans, and was actively sponsored by Mr. Ivan Goodman, the Washington representative of the Los Angeles Chamber of Commerce. As a result, it was enacted into law in a remarkably short time, despite its comparatively late introduction and the great volume of unfinished business before both Houses. Its approval by the President on May 29 puts a distinct quietus upon what for a number of years past has been one of the favorite outdoor sports of a certain class of potential land grabbers and get-rich-quick artists. Lou Barrett will never cease to deplore the loss of the thousands of super-excellent summer home sites which were passed to private ownership under the Act of June 11, but he undoubtedly will find solace and heartsease in the fact that through this most recently approved bill the further disintegration of the Angeles Forest has been effectively stopped. Success in this instance was due wholly to the skill with which District 5 brought the true aspects of the situation to the attention of the interests and elements sincerely and genuinely interested in the best permanent development and growth of Southern California, thus changing their previous indifference or complacent toleration of the practice into an attitude of constructive remedial action bringing quick results. Of course, no other part of the country can do these things as well as California, nevertheless, the success attained in this case may point the way by which relief from similar situations in other parts of the country may be secured with equal success.

WHEN WE WERE VERY YOUNG

By Eunice Skamser, Allegheny For. Exp. Sta.

Somewhere everyone of us has a picture of a wide-eyed, attractive youngster who seems only distantly related to the person he is today. Changes come so gradually that they are scarcely realized at all until someone begins the old song of "I remember when you were about so big". (You know the gesture.) A different person every seven years, multiply that difference by four and add two, and the product is an example of what thirty years mean in the life of an individual. This is not exactly a story of "I remember when", but it is a glimpse at word pictures of the youthful Forest Service and the change wrought by thirty years, portrayed in two papers a small space apart on the shelves of the Allegheny library.

1897! Era of mustache cups, tandem bicycles, and gored skirts! What was the Service like then? We are able to picture it statistically through the report of B. E. Fernow, Chief of the Division of Forestry, Department of Agriculture.

There was a personnel of thirteen: seven scientific men, six clerks, and one messenger. There is a suspicion that the six clerks were not such in the light that we hold clerical work today, for one was the herbarium clerk earning $840. A statutory allotment of $8,520 and $20,000 from the general fund were granted "to enable the Secretary of Agriculture to experiment and continue an investigation and report upon the subject of forestry and timbers, for traveling and other necessary expenses in the investigation, and for the collection and distribution of valuable economic forest tree seeds and plants".

The principal lines of experimentation were three: the experiments in tree planting in the plains, with an authorization of $8,175; timber physics, incurring an expenditure of $1,166; and biological investigations, amounting to something less than $2,225. "In addition to 28 acres planted to trees in various mixture, six conifer nurseries have been established and a large quantity of nursery stock has been purchased for future planting." .... "The total area now in permanent plantations at all stations is 59½ acres". The investigations conducted under the name of "timber physics" were defined as "an inquiry into the characteristics of economic species of timber which have bearing upon their use in mechanics and the arts". The biological inquiry had for its purpose "the determination of the life history of our principal tree species, including rate of growth, characteristics at various periods of development, conditions affecting development, possibilities of protection, and similar practical aims". In addition, an extensive reconnoissance survey of forest conditions in Arizona was made to form the basis of a forest policy to be incorporated in the constitution of the coming State.

Publications for 1897 included two bulletins, five circulars, one Senate document, and two articles for the Yearbook.

Among many recommendations, two are outstanding: one for an increase of appropriations to $50,000 for merely expanding the lines of work inaugurated; the other, a plea for the transfer of the "national forest reservations" to the care of the division.

1927! Era of chain stores, transoceanic flights, and speed! Everyone knows the story of that year both in the Service and out.

Unofficially and rather off-hand last fall, Miss Judson told me that the personnel numbered around 2200 in permanent appointments. What proportion of this scientific, and what "other", someone else will have to supplement if he cares to know.

Colonel Greeley, September 1, reported to the Secretary an expenditure of $23,512,220. But what is far more important, he also reported an earning of $5,166,605.

With none of the land directly under the care of the Division in 1897 contrast the 158,800,414 acres which now lie within the domain. The brave showing of 28 acres of battleground won by the green forces in 1897 dwindles beside the 12,617 acres reclaimed in the planting season of 1926.

The story might go on and on and tell of the infinite lines of activity open in 1927 which were only dreamed of thirty years before. Even in this day of billions, blase beholders, and boasting backers there would be romance in the reading. But this was promised as a glimpse. Such it is. Let the reader supply the present scenes. If he can, let him vision 1957, standing as we now are with the backing of many good friends and increasing finances!!!

WHO PUT THE G-r-r-r-r-r IN GRAZING?

By N. J. Billings, Wallowa

Here is a problem for a mathematician to figure out:

If a permittee graze sheep on a Zone A allotment, on which the base rate is 4¾¢ per head per month, and on a Zone B allotment on which the rate is 4¼¢, pays a total of 24-7/16¢ for the 7 months, what would he pay on Zone A for a 7-months season? You are wrong the first guess, - he pays 24-1/16¢ per head per season.

A permittee grazing sheep yearlong on range carrying a 4¾¢ per head per month rate would this season pay 36¾¢ per year, but if you took pity on him, and for 5 months of the season charged him only 3¢ per month per head and 4¾¢ for the remaining 7 months, he would pay -- wrong again -- the rate would be 39 1/16¢ per head per year.

What we need now is a good explainer, who can explain this in a satisfactory manner to stockmen. We have not been very successful so far. In fact, the matter is not very clear to us. Whenever you see one of our computers sitting with a fixed, faraway stare for some time, and suddenly grabbing a pencil and figuring rapidly for a few pages, then end up by pulling out a few handfuls of hair, biting his pencil in two, and in a loud and convincing voice wrecking any chances he might have in the great unknown and unascertainable, it means the problem is not yet solved.

Our attempts to explain this to stockmen has been more or less futile. The only results are that a number of more or less prominent citizens have been seen on the streets in a dazed condition, counting on their fingers, and have had considerable difficulty in explaining to the authorities that they are not under the influence of one of our local products.

It is understood that the party responsible for the present schedule wanted to travel from one town to another, the railroad fare being $3 and he had but $2. He pawned the money for $1.50, sold the pawn ticket for $1.50 and went rejoicing on his way.

STATE OF MICHIGAN AUTHORIZES SALE OF STATE LANDS TO THE UNITED STATES

The State of Michigan, through the Conservation Commission, has approved the sale, by the Director of the Commission, to the United States of all State lands within the three purchase units now existing within that State. It is anticipated that this will involve an acreage of from 150,000 to 200,000 acres. This action is indicative of the appreciation of the State authorities of the work being done within that State by the Forest Service and its relation to the cut over idle land problem of the State. - E. W. Tinker, D. 2

RANGER BILL GOES ON THE AIR

Stories and experiences of the Rangers in the United States Forest Service on the Pacific Coast will be embodied in the new series of programs to be broadcasted by the Radio Corporation of America to be given through the National Broadcasting Company beginning Monday, July 9th at 7 P. M., and continuing every Monday evening at that time for eight weeks up to August 27th inclusive.

Those who remember Ranger Bill through magazine and newspaper stories and previous broadcastings will be glad to learn that this genial veteran of 25 years in the Service will be responsible for the exciting adventures to be related to hundreds of thousands of listeners on the Pacific Coast.

On account of the fire danger that is always present at this season of the year in the mountain regions of the West, Ranger Bill will be unable to appear in person before the microphone since, as he says: "Uncle Sam expects me to stay up here in the mountains and keep this district of mine from burning up. You never can tell when some careless smoker is going to chuck a lighted cigarette into the brush, or go off and leave the camp fire burning. My motto in summer is 'An ounce of fire prevention is better than a week of fire fighting.'"

Ranger Bill's experiences will be presented by arrangement of the Radio Corporation of America with the Forest Service in the interests of fire prevention and conservation. The fire stories will be told by a specially chosen speaker in the course of a carefully selected program of appropriate music under the direction of Max Dolin. The first of these programs will be given on July 9th over stations KFI, Los Angeles; KPO, San Francisco; KGW, Portland; KOMO, Seattle; and KHQ, Spokane, After July 9, KGO, Oakland, will also be included. - District 5

YE EDITOR DISCOVERS

The Forester has authorized the advertisement of about 400,000 M. feet of timber, over 99 per cent western yellow pine, on the Modoc National Forest. This timber is intermingled with about 600,000 M. feet on land owned by the Pickering Lumber Company. In this region there is one of the worst infestations of the western pine beetle (D. brevicomis) of which we have any record. The sale, which will mean the establishment of a new unit of pine lumber production, has been approved solely because of the necessity for action in salvaging as much as possible of the infested and killed timber and for getting the benefits of the operation in helping to suppress the epidemic. The terms of sale require immediate action by the purchaser, who is to log the infested timber on at least 15,000 acres of Government and private lands within the sale unit during the next year. The applicant plans to put in at least one portable sawmill, which will saw ties and construction timber from these infested logs, burning the bark and slabs currently. He also plans to log infested timber to the line of his logging railroad and proposes to haul these logs to the sawmill site, where they will be placed in water, thus drowning the bugs. It is hoped to have the railroad completed and the logs moving to the pond before the time of beetle emergence in the summer of 1929. The purchaser's main sawmill must be completed by October 1 1929.

In view of the emergency and the improbability that any other operators than the Pickering Lumber Company will be interested, a thirty day period of advertisement, ending August 4, has been approved with provision for the extension of the advertising period for an additional sixty days if a request for such an extension is received from an operator of known financial responsibility who will agree to bid if upon investigation during the period of such an extension he finds the facts as represented by the Forest Service.

The conditions of sale require that the purchaser construct, as his main mill for the manufacture of the timber, a sawmill of the band type located within Modoc County, California.

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District 2 is the first one under the wire with the report upon municipal watersheds which initially was suggested by Washington office letter of March 4, 1927, and which has been carried as a project in the Lands Section of the annual work plan during the past two years. The ink on the receiving stamp was hardly dry before the report served a very valuable purpose in connection with a personal call of a representative of the city of Ashland, Oregon, to protest against Forest Service timber sale operations on the watershed of that town. He pictured the most distressing probable result from such operations and was absolutely convinced that no other municipality in the Western United States was threatened with such a menace to its source of water supply, or could long survive even a controlled utilization of natural resources upon its watershed.

A few illustrations of controlled utilization on city watersheds, picked at random from the District 2 report, made a very distinct impression upon him and greatly increased his receptivity to the arguments which immediately thereafter were broadcast by Mr. Sherman and Nick Carter, who supplemented their oratorical efforts with some splendid pictorial evidence of the results of selective cutting in the yellow pine type on the Bitterroot Forest. The inter-relationship of District interests thus is strikingly illustrated by the use of a District 2 report and a District 1 series of photographs in connection with a District 6 protest against timber cutting on a municipal watershed.

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Mr. Cecilio Maneja, Assistant Chief of the Branch of Lands in the Philippine Bureau of Forestry, is spending a short time in the Washington office making a study of the work of the Forest Service, particularly in connection with the Branch of Lands. Mr. Maneja expects in the near future to visit some of the District headquarters.

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Headquarters for the Federal inspection of cooperative work in fire protection and the distribution of forest planting stock under the Clarke-McNary law in the Central States have been established by District Forest Inspector E. Murray Bruner in the Federal Building, Louisville, Kentucky. The Central States district includes Illinois, Indiana, Iowa, Kentucky, Missouri, Ohio, and Tennessee.

WHIMPERING VS. ANALYSIS

By Carl Ewing, Malheur

In the quotation below from the April 21 issue of the Saturday Evening Post, Henry Ford expresses a thought which has, I know, occurred to many members of the Forest Service but which is still, I fear, overlooked by some of us when "the pressure" becomes irksome.

This thought applies not only to the relationship existing between an employer and his subordinates but also to that between an official and the public served by his office. It should become a fixed rule in the minds of all of us from fire guard to Chief that every mention of fault should be accompanied by a constructive suggestion for its correction.

Mr. Ford says:

"Fault-finding is the most elementary reaction to the sense of wrong conditions. It is the first crude reaction to the pressure. It is amazing to note how large a percentage of our intelligent classes remains in the region of fault-finding simply because effort is required to rise into the region of analysis.

"Lazy-mindedness is a disease which drives the mind to lean on any convenient defect that may serve as an excuse for reason. To express and nurse a grievance, instead of diagnosing it, is the first tendency of human nature. This discovers nothing, solves nothing, improves nothing. It is emotional rather than reasonable, whimpering rather than self-reliant, and it encourages moral cowardice. The habit of looking around for some one to take the blame is parent to the habit of looking around for some one to help us instead of looking to ourselves.

"We need analysis more than fault-finding, for then we face conditions and not merely people who are caught in the very conditions which we charge them with creating. Only after an analysis can we go on to criticism."

SUPERVISOR BLAIR LOSES HIS LIFE WHILE ON THE JOB

After a service of 22 years and 5 months, death came to Forest Supervisor James A. Blair on June 18 while on official duty in the field, just as he would have ordered had it been left to his choice.

Mr. Blair entered the Forest Service as Assistant Ranger January 1, 1906, and was assigned to the Holy Cross. Shortly after, he was transferred to the Leadville and there served as Ranger in charge until November 5, when he was promoted to the position of Supervisor of the White River, where he served continuously. Here by his outstanding quality of fairness he has earned the respect and confidence of users and the public. The post of Supervisor of the White River has been a difficult one because of the large undeveloped territory within the Forest and the range wars which have been waged by the sheep and cattle owners. One of the most strenuous and earnest workers, he leaves behind many accomplishments in forestry. A pioneer in western forestry, it was his privilege to introduce to the practical aspect of the profession a great many young foresters. He held membership in the Society of American Foresters and believed in the profession. Mr. Blair had not only assumed the full responsibilities of Supervisor but had been one of the leaders in community life. No member of the District was held in greater esteem by his associates and his death is a great personal loss to each of us who knew him. - C. J. Stahl, D. 2

A SCHOOL FOR GAME KEEPERS

The Game Conservation Society, Inc., with headquarters at 20 East Forty-second Street, New York City, has recently opened a school for game keepers at Trenton, New Jersey. This is to meet the demand for trained game keepers to remove the handicaps of game propagation in this country. The school property includes 1,400 acres of land with buildings and equipment suitable for the purpose, and there are now completed, or under construction, a number of breeding pens and rearing fields to be occupied soon by young birds. Recent reports indicate that more than 3,000 pheasant eggs are in process of hatching - and the work is just getting under way.

The teaching personnel has been chosen from the best available talent in the United States and the school is being conducted as a national institution in the hope that ultimately every State in the Union will send representatives there for instruction. Provisions have been made to accomodate 40 students.

The curriculum provides for a two-year course covering thoroughly the principles of game restoration work, together with practical instruction on the raising of quail, wild turkeys, water fowl, Hungarian partridges and pheasants.

The course is open to men over 18 years of age, and for the first year no tuition is charged, although each student is required to pay for his board, lodging, and laundry.

In establishing this school for game keepers, the sponsors of the enterprise have made a notable contribution to the great cause of game conservation. So says the June issue of the Du Pont Magazine. It goes on to say: "We believe it will go a long way toward working out the solution of the problem in the right way." - Eastern District Digest.

REPORTING TO THE FOREST USERS

The Carson forest has had an annual educational campaign for the past three years. This year, in addition to the usual repor on numbers and interest, they have also submitted a cost record.

Salary of 3 forest officers for 12, 13 and 21 days respectively,	$234.00
Subsistence for same	87.40
Stage and mileage	13.62
P. R. truck expense	45.47
Misc.	1.35
Total	$381.84

Time covered April 9th to April 29th, inc. Some days three showings were made and two on several other days, 33 in all, and 5,536 people were reached at a cost of less than 7¢ per capita. The report states. "I feel that moving picture campaigns will be very helpful in bringing to the attention of Forest users the real objects of the Forest Service. Many of the stock owners have a feeling that the Forest Service is against their interests, but by careful explanation of the real aims of the Forest Service, this feeling is destroyed, and their confidence gained." - District 3 Bulletin.

RANGER TREE PLANTERS

A number of field men in the District are sufficiently interested in the planting of trees to do a little on their own initiative, without waiting for a planting allotment. On April 3, FM offered to send surplus Douglas fir planting stock to any Ranger desiring to plant some trees. To date, (April 30), 18 requisitions have been received from 8 different Forests for a total of 6925 trees.

Following are the Forests from which the requests came: Chelan, 700 trees; Crater, 100; Fremont, 250; Mont Hood, 675; Olympic, 1200; Snoqualmie, 2200; Wenatchee, 400; Whitman, 1400. - Geo. E. Griffith, D. 6.

> In the administration of the forest reserves it must be clearly borne in mind that all land is to be devoted to its most productive use for the permanent good of the whole people*** Where conflicting interests must be reconciled, the question will always be decided from the standpoint of the greatest good of the greatest number in the long run.
>
> James Wilson, Secretary of Agriculture
>
> February 1, 1905

FOREST SERVICE U S DEPARTMENT OF AGRICULTURE

Service Bulletin

Contents Confidential

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THE RETIREMENT OF WILL C. BARNES

By Albert F. Potter

When a fellow does things well, and is good natured about it, folks most always find something for him to do. So when Will C. Barnes reached the retirement age, instead of letting him drop out of active work in the Forest Service, Uncle Sam found a place with the United States Geographic Board, where they needed just such a man.

No doubt they painted a pretty picture of this new job for Will and made it appear that after twenty-one years of working out the problems connected with grazing on the National Forests, here was a chance to drop into a place where all was peace and harmony. Well, I sure hope it pans out that way, but it seems to me that I have heard about some controversies over the names of mountains and such which were just about as hard to settle as the old scraps between the cattlemen and sheepmen. Anyway there ought to be plenty of opportunity for travel when office work gets tiresome, as there is almost an unlimited supply of mountains and streams, the names and location of which need to be kept right, and, as Secretary, all a fellow should have to do is to report the facts to the Board and let it do the rest. So there you are, and for a fellow who gets as much fun out of hard work as Will does, this ought to be just a pleasant pastime.

My first introduction to Will C. Barnes was on the spring round-up, way back in the early eighties, when he was running a cow outfit down in Northern Arizona. At that time I was a tenderfoot from California trying to break in on the cowboy life. The previous winter had been spent in camp with some Texas cowmen and I started out with what I thought was a pretty nifty outfit, but when we joined that round-up it soon became apparent that there was much to learn about proper equipment. In those early days of the range there was a keen rivalry between the cowboys, buckaroos, and vaqueros from Texas, California, and Mexico over the kind of saddles, bridle bits, spurs, ropes, and other fixings used by them. Of all the men at this round-up my ideal was found in Will C. Barnes. He had fine looking horses, rode a Texas saddle, used a California bridle bit and rawhide riata, and wore a Mexican hat, all of which showed that he was an able diplomat as well as a good judge of cowboy equipment.

All during the eighties we prospered with good grass on the range, fat cattle and horses, and high prices for the beef steers sold each year. Everybody increased his herds until we had thousands instead of hundreds, and thought we were on the road to eternal wealth. Then the weather man overlooked Arizona for three years and neglected to give us any rain. Cattle starved, prices slumped, and everything went to the bad.

Many quit and left the country, but among those who stuck was Will C. Barnes. It took more than a three-year drought to beat him, and right on top of this disaster the Governor appointed him Commissioner to the World's Fair at Chicago, and Will put in a whole year telling people all about the wonders of Arizona.

After that was over, some new side line had to be found for the convalescent cattle business. In the meantime I had kept in the game by securing an appointment as Inspector for the Live Stock Sanitary Board. There were plenty of hides to be inspected even when cattle were scarce. Now a new opportunity presented itself in the form of nominations on the Republican ticket in a Democratic County. Will and I both went after it and landed respectively the nominations for Assemblyman and Treasurer of Apache County.

Then came the campaign. As a novelty we had cards printed with our photographs in one corner. This was at the time colored picture cards were being given as premiums with Arbuckle's Coffee, and a newspaper on the side of our opponents commented that Will Barnes and Bert Potter should send their cards to Arbuckle Bros. to be included in the series of "Rare Birds of America". We enjoyed that shot as much as anybody, and in fact it helped elect us.

There were no radios in those days, so we had to canvass the county by holding meetings in all the precincts, usually at the school house. At these political meetings it was customary for the candidates to furnish music for a dance which followed the speech making. Will and I added to this program by taking advantage of his musical talent and giving the audience some cowboy and comic songs. Comment reached my ear that our songs were better than our speeches, and so far as my part of the performance went I will admit that the critics probably were right. Anyhow when the votes were counted we both had comfortable majorities, and so perhaps it isn't always sound argument which wins in a political campaign. Personal friendships and a fellow's reputation often have a lot to do with it.

When these public duties had been squared, we both sought new fields of endeavor. Barnes moved to New Mexico, where he continued in the cattle business and soon became active in the work of the New Mexico Live Stock Sanitary Board. My own efforts turned from cattle to sheep and the next few years were spent trying to beat the other fellows to grass on the public range. Then came the establishment of the Forest Reserves, as they were called at first, covering much of the summer range we had been using and both the sheepmen and cattlemen were confronted with new problems which had to be solved.

This is not the place to tell about how I happened to enter the Government Service, and, after the transfer to the Department of Agriculture, be the one selected to take charge of grazing management on the National Forests, so we will pass on to 1906 when it became necessary to hold a Civil Service examination to secure an eligible list from which to appoint men for the grazing work. At that time Mr. Barnes was still located in New Mexico and taking an active part in all matters relating to use of the public range or affecting the interests of Western stockmen. Therefore, quite naturally, I urged him to take the examination and join in what seemed a wonderful opportunity for public service by doing something big for the stockmen of the West and at the same time firmly establishing the National Forests under a policy which would endure.

Fortunately there were many features of the work which appealed to him, and in due time Mr. Barnes, who had received a very high rating, was appointed as an Inspector of Grazing in the Forest Service.

Then began the big task of bringing about an orderly use of the National Forest ranges and securing the cooperation of the stockmen in doing so. The first big principle agreed upon was that the live stock must be allowed to continue grazing upon the range during the period in which a plan for the regulation of its use was being worked out. Cattle and sheep must eat and drink to exist, consequently changes in range use had to be made gradually with due regard for this fact, if serious loss was to be avoided.

Here is where the wide experience of Will C. Barnes and his familiarity with the prevailing methods of handling stock upon the open ranges became of great value.

In meeting the stockmen and studying their problems he could talk to them in language which they understood, or, in other words, in terms of the range which secured their attention.

As is well known, the attitude of the stockmen at first was in vigorous opposition to any restriction of grazing. They wanted to be let alone and allowed to handle their stock as they pleased. This, of course, was impossible, and in fact, although they did not know it, was not for their best interest. But when they realized that their problems were understood and that we were trying to help them meet the new conditions by applying the necessary restrictions in the use of the National Forest ranges with the least possible inconvenience and injury to owners of the stock, there came about a gradual lessening of opposition and at last a hearty cooperation on the part of the stockmen in changing from the old system to the new.

This was due in part, of course, to the fact that as the ranges were brought under a system of regulated use there was an immediate increase in the amount of forage available and consequent improvement in condition of the stock, which meant not only heavier and better animals but more calves and lambs and a more profitable business.

Nothing indicates more clearly that the stockmen generally were satisfied with the system of regulated grazing which had been worked out for the National Forests than the fact that when the readjustment of boundaries and eliminition of lands not needed or suitable for forest purposes began in 1910, they protested vigorously against such action being taken. Furthermore, in the years which followed, they made many efforts to have areas of grazing land added to or included in the National Forests so that the benefits of systematic management might be enjoyed.

The credit for this great piece of constructive work belongs to the entire Forest Service, perhaps more particularly to those of us who were directly connected with the Branch of Grazing, but in any event a large share belongs to Will C. Barnes whose good judgment, experience, and tact helped guide us safely through many dangerous places. As the years roll on may he get much satisfaction and pleasure out of memories of the many interesting happenings in the pioneer days of the grazing work.

LARGEST CARGO OF NAVAL STORES

During the last week of June, the Steamship Woodfield cleared the ports of Savannah and Brunswick, Georgia, with what is reported by the Naval Stores Review as probably the largest cargo of naval stores on record. This good ship bore away from our turpentine fields a total of 8,180 casks of spirits of turpentine and 17,854 barrels of rosin. The bulk of this was destined for London, Rotterdam, and Hamburg. The value of the shipment amounted to around half-a-million dollars. During the War period of enormously high prices there may have been cargoes of equal or greater value but none is said to have equalled this in quantity of material. - W.R.M.

MEDICINE BOW HAS BIG TIE SALE

The District Forester at Denver recently opened bids for a sale of about 860,000 hewed ties and about 13,000 M feet of sawlogs, which it is expected will be sawed into ties, on an area of about 6,000 acres within the Medicine Bow National Forest, Wyoming. This sale was awarded to the Wyoming Timber Company, which has been producing ties and selling them to the Union Pacific Railroad for many years.

Under the terms of the contract the purchaser will pay 9 cents for standard gauge, hewed ties and $1 per M feet for saw-logs. It is expected that between 250,000 and 300,000 ties will be produced annually and that five years will be required to complete the cutting.

WHAT AND WHY IS NEWS?

By C. E. Randall, Washington

To get over a message in press publicity in a form attractive to the newspapers and interesting to the public, it is ordinarily necessary to "Hang it on a news hook" – i.e. put it over in connection with an item of news value.

Newspaper men are familiar with this practice, and they have many little tricks up their sleeve in putting it to use. Note how many news stories a paper can concoct in connection with some matter in which it is particularly interested. For instance, a paper is interested in pushing a certain public meeting to be held in the town. Technically, there are only two essential news stories in connection with such an event – it's going to happen, and it happened. But this paper makes occasion for half a dozen stories a day for some time before and after: "Monster Meeting Planned" – "Date Set for Mass Meeting" – "Committee Named to Arrange for Meeting" – "Chairman of Committee Says–" – "Plumbers' Union Endorses Meeting" – "John Doe, Principal Speaker, Has Important Message" – "John Doe Wanted to be Circus Performer in Youth" – "John Doe Has Interesting Family Life" – "Mayor Urges all to Attend Meeting" – "Traffic Squad Prepares to Handle Jam at Auditorium" – "Committee to Greet John Doe at Station" – "John Doe Arrives in City", – "Miss Pumpkin-Center, Local Beauty Queen, Meets John Doe" (with picture) – and so on to the limit, if any.

Such publicity of the typical publicity agent's variety is far from Forest Service ideals. But it shows that there is plenty of news, if we know how to spot it – or make it.

Now what is news, technically speaking?

The numerous definitions of news that have been advanced in the journalistic profession usually agree on two requisites: timeliness and interest. But even these two so-called requisites are susceptible of modification in practice. Timeliness may not be essential in the case of a "feature" or "human interest" story or in the alleged historical disclosures frequently seen in newspapers. Interest often can be, and is, manufactured by clever writing.

A number of qualities may make for interest in news. Important among these is the unusual, the extraordinary, or the curious. Any departure from the normal order attracts attention. Everyone has heard Dana's famous definition of news to the effect that when a dog bites a man that is not news because it is ordinary, but when a man bites a dog, that is news.

However, the element of departure from the customary is not the only one to be considered. It is related that Dana's rule once caused a great story to be passed up on the Egyptian Daily Papyrus. The cub reporter rushed into the office and announced excitedly:

"Boss, I've got a big story – Cleopatra has just been bitten by a snake!"

Trained in the old school of journalism, the city editor frowned disapprovingly.

"How many times have I told you," he bellowed, "that that is not news? Now if Cleopatra had bitten the snake that would have been real news."

The extraordinary or the unusual, nevertheless, can nearly always be relied upon for news interest.

FLINT AND ROSE MAKE FORCED LANDING IN TIMBER

Howard Flint, fire chief in District 1 and Jack Rose, fire patrol aviator, had a narrow escape in a forced landing on July 11, according to AP dispatches. From the earliest dispatches, it was not certain whether they had escaped serious injury or even death, but the following item carried in the evening papers of the 12th brought relief to hundreds of colleagues and friends:

"Lieut. Jack Rose and District Chief Forester Howard Flint, whose plane was forced down Tuesday in the timber of Northern Idaho while the two were on forest patrol, walked into a logging camp near St. Joe, Idaho, late yesterday. They were badly bruised in the forced landing, reports received here said.

"Rose was married an hour before he took off on the forest patrol flight. The ceremony was performed in an airplane over Spokane, the first air wedding ever to take place here.

"The brief reports indicated that the flyers, after being forced down into thick woods when their gasoline supply ran out, walked all night through the timber to the logging camp.

"Their plane was damaged, Spokane aviators reported after circling over it in the hope of finding the men. They added that no plane could make a successful landing within 25 miles of the place where the plane came down.

"Rescue parties had feared that both Rose and Flint were seriously hurt or killed, because of the peril of their landing, made among tall trees and in an inaccessible country where wild animals abound."

SUPERIOR NATIONAL FOREST - MINNESOTA

Anybody who cares to determine how complicated and involved a conflict can arise between industrial interests and recreational interests in the development of a National Forest area, and who enjoys some fairly snappy reading, should secure a copy of the hearings before the Public Lands Committee of the House with reference to H. R. 12780 which is "A bill to promote the better protection and highest public use of lands of the United States and adjoining lands and watersheds in Northern Minnesota for the production of forest products, the development and extension of recreational uses, the preservation of wild life and other purposes not inconsistent therewith; and to protect more effectively the streams and lakes dedicated to public use under the terms and spirit of clause 2 of the Webster-Ashburton treaty of 1842 between Great Britain and the United States; and looking toward the joint development of indispensable international recreational and economic assets."

This bill contemplates the international development and management of the Rainy Lake drainage of about 14,500 square miles, of which about three fifths is in Canada and two fifths in the United States. Out of this entire area the Superior National Forest embraces about 2500 square miles, of which about 1300 square miles actually is under National Forest management. Nevertheless, the Superior Forest is primarily the point around which the entire battle rages, and its relative importance is demonstrated by the fact that the report above referred to bears in large heavy black letters the caption "Superior National Forest, Minnesota." When a Forest which constitutes only about 9 per cent of the area involved within a given piece of legislation can step in and hog the whole act, it either must be "some" Forest or must have a good press agent. For the benefit of his brother Supervisors, Al Hamel might explain "how come." - L.F.K.

LABORATORY MEN TO VISIT SAWMILLS

L. L. De Flon, R. C. Rietz, and O. W. Torgeson, members of the wood seasoning staff of the Forest Products Laboratory, left recently on two month's detail to sawmills in various parts of the West. They will be engaged primarily in making observations on the moisture content of lumber shipped during the summer from representative western mills. Complete information with respect to the moisture conditions of lumber will be useful to the lumber trade in working out satisfactory grades in connection with American Lumber Standards, in determining moisture changes in transit, and in obtaining related information on shrinkage.

THE GREEN CROSS ERECTS MONUMENT

A monument to the nation's forests has been erected by the American Green Cross at Greendale, California. The purpose of this monument is to stimulate interest in the preservation of the woodlands of the country.

CALIF. AIRPLANE PATROL TO START JULY 1

Airplane patrol of the Forests of California, again made possible by a special appropriation by Congress, will start July 1. Planes will be used this year only for reconnaissance of forested areas following heavy thunder and lightning storms and during periods of smoke and fog when the visibility from ground lookouts is poor; for aerial survey of going fires, and for the emergency transportation of men and fire fighting supplies and equipment to large conflagrations. No regular patrol, along given courses, will be maintained.

Planes of the Air Service, U. S. Army, used in former years by the Service for patrol duty on the Pacific Coast, will no longer be available for this work, because of the shortage of planes.

Forest airplane patrol this season will be handled throughout northern California by the Pacific Coast Air Service Company of Oakland, and in southern California by the Western Air Express of Los Angeles. These companies were the successful bidders for the work and will handle the patrol under Forest Service contract.

The Pacific Coast Air Service will operate from the Oakland Airport and has agreed to furnish the Service with a Waterhouse-Romain two passenger biplane, a Ryan two passenger monoplane; and a Fairchild five passenger monoplane for use as a reserve ship. The Western Air Express will operate a Douglas biplane, similar to the ships now used on the Los Angeles-Salt Lake airmail run, from Vail Field, Los Angeles.

For the safety of air patrol pilots and observers flying over forested areas where there are no regular landing fields, the Service is improving and marking 35 emergency fields. - From D. 5 News Release.

CATCH 'EM YOUNG AND TREAT 'EM ROUGH

The fire season is here once again. We are probably better fixed as far as men and supplies are concerned than we have ever been. From now on every one must be on his tiptoes, ready to strike quick and hard. Get to them while they are small and when you reach them don't stop until you aresure they are out. When we say out we mean OUT, don't leave until you are sure the last spark is out. If for any reason you use dirt on the fire to smother it down, dig the dirt away and examine every square inch of the ground so as not to leave even a spark that might find its way out to the surface and cause trouble. If you run out of supplies before completely putting the fire out make it as safe as possible and report to the Dispatcher so that the work can be completed. Remember that in the thick humus a spark may smoulder for days and weeks before it will eat to the surface and start trouble. Remember our war cry of "Catch 'em young and treat 'em rough" and stay with them until you get the LAST SPARK. - From "Santiam Patrol."

BEANS FOR SHEEP FEED

By G. C. Blake, Umatilla

I recently visited a large ranch in southeast Washington whose owners are among our most prominent wool growers. Here I discovered a new departure in sheep feeding. At least, it was new to me. Ordinary white table beans were being fed to sheep. The beans were being purchased in carload lots in grain sacks and hauled to the sheep camps where they were scattered over the ground from the sacks, one-half pound per sheep daily. The sheep ate them with apparent relish. The owner pointed out that the beans contained 46 per cent protein and made a very desirable sheep feed and were preferable to cottonseed cake or meal. After the morning feed of beans the sheep were grazed on bunch grass range throughout the day.

YE EDITOR DISCOVERS

The Forest Service library last year added 779 new books and pamphlets to its collection, and discarded or turned in to the main library of the Department 129, making a net increase of 650 volumes. This brings the total number now on file up to 25,217.

Besides the books and pamphlets, the library files 89 periodicals, mostly lumber trade or forestry journals. These are reviewed regularly by the librarian as received, and the important articles are indexed by authors and subjects for the catalogue. About an equal number of journals are sent over from the main library, for circulation and for indexing in the same way. Last year there were 2,920 articles, pamphlets and books indexed in the library, representing an addition to the catalogue of approximately 8,760 cards. The catalogue now contains in the neighborhood of 150,000 cards.

During the year there were 10,936 loans of books and periodicals, and 1,632 visits to the library by members of the Service and others wishing to consult it.

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Junior Forester V. A. Clements has been transferred from the California Forest Experiment Station to the Washington Office of Forest Measurements.

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Three industrial fellows of the American-Scandinavian Foundation have been given temporary employment in the Forest Service during the summer of 1928. The candidates for these fellowships are nominated to the Foundation by its representatives in the Scandinavian countries. The employment in the Forest Service is in the capacity of field assistants. The three men are Erik Lassen, of Denmark, assigned to timber-survey work on the Stanislaus National Forest in California; Birger Berg, of Norway, assigned to the Lake States Forest Experiment Station; and A. T. Blidberg, assigned to the Appalachian Forest Experiment Station.

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The Swiss Forestry Journal for May 1928, contains an almost complete translation of "America and the World's Woodpile," Dept. Circular 21, of which Zon and Sparhawk are the authors.

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The fourth International Congress of Entomology will be held at Cornell University, Ithaca, New York, August 12-18. Four general sessions will be held at which papers of broad interest will be presented by the leading entomologists of the world. A large number of European entomologists have signified their intention of attending.

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Many strange requests come to the desks of forest workers. Some of the questions take in a great deal of territory. For sheer inclusiveness we think that the following is a splendid specimen:

"Would you please tell me the number of acres of the forest and plains land in the following countries and also the cost per acre and the approximate cost of the same land in 1940:

"Canada, Alaska, Mexico, Central American Republics, Panama, Colombia, Venezuela, Brazil, Ecuador, Bolivia, Peru, Chile, Paraguay, The Guianas, Argentina, Germany, France, Jugo-Slavia, Czechoslovakia, Norway, Sweden, Finland, Russia, Australian Commonwealth, The Dutch, English and German East Indies, Siberia, Siam, Burma, India, China, Japan, Korea, Afghanistan and the other countries of Asia, the countries of Africa and the West Indies. Also tell me the area of the Everglades in Florida and please tell me the area of forest and plains land and desert, and the cost per acre in the States of the United States."

"(S) NICKERS"

By F. V. Horton, Columbia

How exquisitely fitting that a "research man" should be the one to discover knickers are an essential part of a Forest officer's uniform. And doesn't it just slay you to learn this right after the official ukase which flatly states that "chaps" are not an essential but a personal idiosyncrasy? O piffle, and other lady-like expressions denoting disillusionment.

Here in the Pacific Northwest we have emulated the uncouth lumber-jack and the cow-puncher in our manner of dress. It seemed to us that these workmen had developed a mode based on years of experience in the woods. It also seemed to our untrained minds that this mode had a wholly utilitarian objective and was in no way influenced by the esthetic aspects of the problem. Herein it appears we have erred. Perhaps the esthetic side of the fundamental involved should have received more and deeper thought. Henceforth, in selecting our wardrobe, we shall not allow the purely utilitarian to overshadow the artistic, and our socks shall bear tassels and our pants shall become more and more skirt-like.

It is presumed that inasmuch as this startling discovery was made by a "research man" it is obligatory that the logging and lumbering industry be given the benefit of his findings. Beyond a doubt the loggers and lumbermen of the Northwest will welcome a brochure on the subject of "Plus-Four Panties for Whistle Punks".

ADVANCE IN WOOD PRESERVATION IN THE ROCKY MOUNTAINS

By C. N. Whitney, D. 1.

The first commercial treating plant in the Rocky Mountain region was erected by the C. B. & Q Railroad at Sheridan, Wyoming, in 1899. Since then ten additional pressure treating plants have been erected in this territory, as well as thirteen nonpressure treating plants. In 1926 these handled the equivalent of 250,000,000 board feet of ties, construction timbers, poles, piling, and mine timbers. This shows a striking growth over the period from twenty to twenty-five years ago, when the average output was only equivalent to about 57,000,000 board feet. In number of ties the increase is from 1,500,000 to 5,463,000.

The principal tie-treating plants today, listed in order of the number of ties treated, are located at Laramie, Somers, Salida, Pocatello, Sheridan, Paradise, and Riverton. The leading species treated in Wyoming are lodgepole pine and western yellow pine; in Montana, larch, Douglas fir, and western yellow pine; in Colorado, western yellow pine, Douglas fir, and Engelmann spruce; and in Idaho, lodgepole pine.

The present tendency at all of the railroad tie-treating plants is to use more than one preservative, and more than one process. Climatic conditions influence the treatment used. Ties treated by the Burnett process (straight zinc chloride treatment) are distributed in the drier territory, while those treated with creosote or creosote mixtures are used where there is more precipitation.

The amount of zinc chloride used greatly exceeds that of any other preservative, and, furthermore, this process is the cheapest. It only costs about twenty cents per tie, while straight creosote at the other extreme runs up to eighty cents. There is at present an increasing tendency to mix petroleum derivatives, such as fuel oils, with both zinc chloride and creosote. - From "Report on the Meeting of the Northern Rocky Mt. Section of the Society of American Foresters, Jan. 23."

> In the administration of the forest reserves it must be clearly borne in mind that all land is to be devoted to its most productive use for the permanent good of the whole people. * * * Where conflicting interests must be reconciled, the question will always be decided from the standpoint of the greatest good of the greatest number in the long run.
>
> James Wilson, Secretary of Agriculture
>
> February 1, 1905

Service Bulletin

Contents Confidential

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BARNES STILL IN FOREST SERVICE

By E. A. Sherman.

I am not sure that the Forester's announcement that Will C. Barnes has a "new job" and Mr. Potter's last week's reminiscences of the ideal of his cow-punching days have made it clear that the "new job" does not separate Mr. Barnes from the Forest Service.

Although beginning July 1 he took over the duties of the clerk of the National Geographic Board -- a new position which will be as difficult and important as its first incumbent chooses to make it -- nevertheless he remains on the Forest Service roll until such time as the Bureau of the Budget and Congress can provide funds specifically for that place.

Therefore, the name of Will C. Barnes will still appear in the list of Forest Service people who are numbered in our "Who's Who" in Washington. He has not "left the Forest Service" by a long shot. Figuratively speaking, he never will. The day he cleaned up his desk in Room 811 of the Atlantic Building preparatory to taking his seat at a much nobbier looking desk in the Department of the Interior Building he dropped in on the Acting Forester and said: "Any time you want me don't hesitate to call on me just the same as though I were still here. If anything comes up in Grazing during Rachford's absence in the field, or at any other time, that I can help out on just give me a ring and I will be glad to come over and do what I can." That is just like Barnes and it is going to be mighty helpful too, for his 21 years' fund of grazing lore and history will frequently furnish clarifying data which would otherwise be unobtainable.

Barnes probably more than any other one individual in our organization, brought to the Washington office the spirit of the West -- its freedom, freshness. tolerance. This doubtless has been his greatest contribution to our organization, even more important than his intimate knowledge of range conditions or the livestock business and his wide acquaintance with stockmen.

At all times and under all conditions he has had a cheerful smile for everyone from the newest messenger to the most dignified member of the Cabinet. We have all personally been rather proud of Mr. and Mrs. Will C. Barnes, whose versatility and charm have made them the most widely known and most popular representatives of the Forest Service in Washington. As the official Santa Claus, dispensing gifts from the Forest Service tree every Christmas with hearty good cheer, "Will C". has been an almost indispensable institution.

As a representative of the spirit of the West, Barnes' appeal does not lie in Tom Mix stuff or two-gun traditions. It lies more in his sympathy and understanding of the West, particularly its human problems and appeals. He knew the stockman's problem from A to Z, as witness his "Story of the Range". But his interest went farther than the range and the livestock business and their related problems. In his earlier years as a cow-man he spent an evening in camp with a one-armed geologist, and forever after took a deep personal interest in the geology of the country. (His campfire companion that night was Major Powell, later the first director of the United States Geological Survey).

His studies also embraced the archaeology, anthropology, and history of the South west. When to these deversified interests you add the elements of a deep love for music, combined with considerable skill as a musician and keen appreciation of art, you realize that his strength and charm lie in his many-sidedness, also in the fact that living in the West his character seems to have instinctively absorbed what was good and rejected what was bad.

His "Tales from the X-Bar Horse Camp" seem personal. They deal with simple human things, such as the little Mexican boy who alone and in peril saves his flock of sheep from a forest fire. There is no clanking of sabers, no brandishing of six guns, no attempts at the heroic, nothing grandiose. So it has been with the author himself as a Forest official. He has been plain and direct; has not assumed an air of superior wisdom; has been one of us always, ready to give and take, and ready to play the game. The same traits are certain to win and hold the affection of his fellow members on the National Geographic Board just as they have done in the Forest Service.

RADIO COMMUNICATION - PERHAPS

By D. L. Beatty, D. 1.

The Forest Service is embarking on a cruise in an uncharted radio field which promises interesting adventure and if successful a definite step ahead in fire control.

The objective is to perfect a radio communication system to supplement the present telephone system which would provide communication between crews camped at some distance from telephone lines and a central point (probably a lookout station or Ranger headquarters) located on a phone line. This plan would require the development of a sturdy low-power radio code, or combined phone and code transmitting set and a receiving set which could be readily transported on a pack animal and quickly set up, using convenient trees for antenna support. It would be extremely desirable to use a radio telephone at the central station so that if code must be used by the portable stations reply and instructions may be given by voice. Probably a 50 watt phone set with motor generator unit, battery driven, with gasoline charging plant would fill the bill.

The development of a low power radio code transmitting and receiving set light and sturdy enough to include in a fireman's pack, which would enable him to communicate with headquarters when in need of help or food supplies and for instructions when he was not within a reasonable distance of a telephone, would also be a great aid in forest protection. It would permit the use of the radio compass to give a fireman, at any point in the woods, his location and the location and approximate distance of a fire he was unable to find, in relation to his position.

The feasibility of working out such light equipment which would be reasonably dependable for transmitting signals in timbered areas more than 5 or 6 miles appears doubtful.

During the summer of 1919, Mr. R. B. Adams, Telephone Engineer, conducted some radio experimental work using the U. S. Signal Corps 674 radio telephone sets which were manufactured by the Western Electric Company. Two of these sets worked quite successfully over an air line distance of 12 miles. Considerable difficulty was experienced in packing storage batteries to one of the stations which was located in the back country. These sets were operated at fixed stations. The following year two fifty watt telephone transmitting sets were obtained through the Navy Department and operated between Buffalo Hump, Idaho, and Warren, Idaho, an air line distance of about 40 miles, from early in July until September.

During the last few months a very searching inquiry has been made concerning the development of portable low power radio transmitting equipment suitable for horse transportation and concerning the use of radio in regions of rough topography and heavy timber. This inquiry has covered both the extreme western and eastern parts of the country, and radio amateurs, heads of laboratories, army and navy experts, and Dr. Dellinger, Dr. Jolliffe, and other members of the Bureau of Standards were consulted.

It has been found that very little work has been done with low power portable equipment and nothing of any value done to indicate what success may be expected in the use of low power equipment in heavily timbered mountain country. Many authorities believe that it will be impossible to transmit signals any worthwhile distance with the power available using an antenna hung between green trees in heavily timbered areas. At the higher frequencies it could be expected that there would be a very great absorption of radio energy by green timber. To expect any measure of success it would be necessary to use a wave length, to which the bulk of the timber (every tree has a natural frequency) in the region would not readily respond. So called "shadows" due to rough topography will probably result in many "dead spots" and may very definitely limit the locations from which a radio signal could be expected to reach the receiving station. It may be expected that a radio signal will travel much farther along a stream than across dry land, the topographic conditions being the same. Static which is usually very bad in the mountains presents another problem and is at its worst when radio communication is needed most. Mineral zones can be expected to give trouble.

The men in the Bureau of Standards think that the difficulties outlined may not prove so great as accepted theory would indicate and in view of the great value of radio communication to the Forest Service believe there is sufficient chance of success to warrant careful investigation.

Any one who is not familiar with radio power requirements is inclined to think radio communication a simple problem, because voice and music from broadcast stations located at great distances from them may be received clearly with very simple equipment. With unlimited power the problem is fairly simple. However, with the present development of electrical power supply which may readily be transported by pack animals, the power available is only in the neighborhood of five or six watts. Most of the broadcast stations are now using several hundred and in some instances several thousand watts. Dry "B" batteries or hand generators provide the best power sources for the truly portable outfit. Storage batteries with the necessary gasoline charging plants are out of the question. The latter type of plant is, however, suitable for fixed stations and a power development of 50 or 75 watts is entirely feasible. With low power it is usually best to use code as, for example, a five watt set with a dependable voice range of four or five miles has an equally dependable code range under the same conditions of 50 miles or more.

The next step is to determine what happens to a low power radio signal handicapped at the very start by over-shadowing green timber and encountering on its way more green trees to rob its energy and high ridges to bar its progress. Stuart Ballantine, an eminent authority on radio, states: "Probably the most prevalent source of dielectric loss in amateur antennae is the proximity of trees, large bushes, etc. * * * * even if 50 feet away trees are deleterious and to be avoided if possible."

It is planned to do the preliminary checking, first, in areas where green trees offer the only problem; next in barren mountains to determine the effect of "shadows"; the mixed conditions, mineral zones, etc., following later if the preliminary work proves successful.

Various wave lengths must be tried in every test as well as amount and character of power within feasible limitations. The use of various transmitting tubes must be checked, also different antenna and counterpoise systems.

To accomplish this work it will be necessary to secure very flexible radio phone and telegraph transmitting and receiving sets to equip two portable stations. Light cars can be used for transportation at least for the preliminary work. Suitable radio equipment cannot be found on the market, so it will be necessary to have sets designed and built to meet our requirements, which, of course, will result in a material delay in beginning actual field tests. It is hoped, however, to have the complete outfit in the field ready to go by the middle of August. The work will be started in the western portion of District One.

WHAT AND WHY IS NEWS?

By C. E. Randall, Washington

The extraordinary or unusual. Humdrum routine whets the appetite for every break in the monotony of regularity. That is why the extraordinary or unusual has news value Hundreds of thousands of clerks perform their duties day in and day out with more or less honesty and efficiency, but when one suddenly clears out with the firm's cash-on-hand and makes for parts unknown, that is news. The outstanding example of this class of news in the daily prints is the crime news - crime is still classed as a violation of the usual order.

But crime news is not the only type of news to be found under this classification. Accidents and unexpected occurences, because they break in on the usual course of events, are matters of news. A notable achievement in any field of activity is news, because it rises above the level. A heroic action. a marked success, a record broken or equalled, the discovery of a new method of accomplishing some useful purpose, or of preventing some evil effect, a new invention, a reform, the completion of some important undertaking, the finding of something unusual, are all sufficient departures from the ordinary to attract attention.

Freak discoveries or happenings always attract the reader's interest. Supervisor Horton gives an excellent example in pointing out the news value of the lightning fire at Spirit Lake last summer which was started by a bolt from a cloudless sky. Horton also stresses the importance of timeliness, but more of that later. This bolt from the blue, however, would have made as good a "freak" story as could be wished for, and of course it would have been a very convenient news hook on which to hang some more important information pro bono publico on lightning fires in general, their causes, and cure.

In the Forest Service, we have many opportunities for furnishing news of the extraodinary or unusual class. The report of any forest fire is news - of local or national interest, depending on its size and spectacular character. In some parts of these enlightened United States, it is true, forest fires may be of such common occurence that the lack of them would be the unusual element necessary to make news. In either case, the fire story carries with it the suggestion of the undesirable nature of forest fires, and it is the underlying, often unexpressed, suggestion that we look to in our PR stories for the greatest benefit in creating the right sentiment in the great American public.

The successful suppression of a fire also is news. Although it perhaps does not represent as spectacular an achievement as the crossing of the Atlantic by airplane, it is an achievement, and as such is interesting to the public.

We have other achievements of news value to offer. The development of an unusually effective organization or method for fire detection or suppression, the successful bringing-back of a depleted range, the establishment of a new system in any line of our forestry work, and the demonstration of its success, - all these things have news interest. The completion of a new road, a new lookout tower or fire line, especially if it has been constructed under difficulties, represents success. Every one likes to read about successful achievements and the persons who accomplish them. Often the reader sees in them the possibilities of his own successful accomplishment.

In the Forest Service, we can frequently report new records in our various lines of work. A record number of fires or a record for the small number of fires in a given season, a record time in getting to a fire, a record in planting, a record number of visitors to a Forest, all are good news. All our records do not have to be world-beaters to be interesting. A record for the current year, or for a given locality is news, at least locally.

Among our Forest Service men undoubtedly we have many heroes unhonored and unsung. Any act of courage, of ingenuity, or of unusual efficiency, will make news. Surely any Forest officer will be willing to put by his blushing modesty for the good of the cause when a story about his deeds can carry the message of forestry to good effect. And "hero stories" are especially strong in suggestive possibilities.

While we do not wish to capitalize on the misfortunes of our Forest workers, an accident is always news, especially an unusual accident. And there are fortunate as well as unfortunate accidents. A rainstorm at the critical moment in a bad fire situation is a fortunate accident which might deserve notice.

In their explorations and surveys, the field men frequently discover freaks of nature or things of unusual interest. A cow with triplets can usually get her picture in the paper. A toad in the cornerstone of a Texas building kept the news wires hot for days. If a Forest officer finds a tree grown into the shape of a pretzel or a rock that resembles his mother-in-law, it will make just as interesting news.

The Forest Service also can have its crime news. For more reasons than one, cases of incendiarism or fire trespass should be given full publicity. Our law enforcement work is full of news possibilities.

UP TO THE MINUTE

By F. V. Horton, Columbia

The use of modern methods in forest fire suppression was vividly demonstrated on May 20-21 near the Hemlock Ranger Station, Columbia National Forest, when an early spring storm set five lightning fires in an area of extremely high hazard.

The chronology of the whole episode is interesting. On May 19 a telegram from the Weather Bureau at Seattle stated that the relative humidity would be at the danger point the following day, and, since that day would be Sunday and the usual number of fishermen and campers could be expected, a patrol was organized for the Wind River and Dry Creek drainages. No fires were started. Late Sunday night another telegram from the Weather Bureau stated that lightning storms in the mountains might be expected. Early Monday morning Gael Simson, of the Northwest Experiment Station, advised Ranger Huffman that from his studies of static as indicated by the static recorder, a lightning storm was due about 3 p.m. Ranger Huffman reviewed his organization and decided that the road and trail crews were properly distributed. At 1:30 p. m. the storm broke and out of ten strikes, five actual fires were established in snags.

A crew of two men with a truck and portable boring machine was conducting an experiment on boring and blasting snags. This crew saw one fire start and immediately made a run to it, finding a 58-inch snag afire in the top. In spite of falling sparks, they bored the snag and shot it down in 27 minutes. In the meantime, Road Superintendent Bottcher had sized up the situation and rushed a fire pump to the job, where it was used most effectively. altogether, nine snags were shot down on this fire and thoroughly drenched by means of the pump. The pump was then switched to another fire which was immediately put under control. In the meantime, the other fires were quickly covered by the road crews and by men from the Price sawmill.

By Monday night all the fires but one were out and it was fully under control.

IT PAYS

By Wm. S. Brown, Modoc

In 1927 the Modoc National Forest conducted an essay contest among the children of Modoc County, on the subject "Why I believe in Fire Prevention." It created so much interest that the educators individually and at their annual convention insisted that the contest be made an annual event.

This year the Supervisor evolved an intelligence test consisting of 40 questions covering various phases of conservation and Forest Service work. A slogan on fire prevention was also a part of the contest. The essay itself counted 50 per cent, the intelligence test 40 per cent and the slogan 10 per cent in the final ratings.

Three first and three second prizes were offered for pupils of the fifth and sixth grades, seventh and eighth grades and High School respectively. Teachers themselves rated the papers, only the papers of the prize winners in each class being sent to the Supervisor. The final prize winners were selected by the Supervisor and his assistant and the County Superintendent of Schools. The contest ended during American Forest Week and the questions in the intelligence test were made the basis of talks by Forest officers at schools throughout the country. The first prize was a three days' trip to the Lava Beds National Monument, the second prize a one day's trip to the Happy Camp Lookout.

Teachers all over the county are enthusiastically in favor of this method of inculcating in the minds of the young the principles of forestry and conservation, and last fall the "Forest Service Essay Contest" had a special place on the program of the annual Teachers Institute.

Some of the essays this year were real masterpieces and so close were several contestants in the finals that it was necessary to award special first and second Tangible results are already evident. prizes in each group. Fire prevention and forestry problems in general are the subject of discussion in the homes and so many adults asked permission to take the intelligence test that special papers had to be typed for their convenience. In this test, the average correctness of the answers for the fifth and sixth grades was 75 per cent; for the seventh and eighth grades, 77 per cent; and for High School contestants, 84 per cent. Many of the contestants in all grades made a better rating than the average for a group of business and professional men.

One young fellow of 19, now an Assistant Scoutmaster, who only a year ago was rather ashamed of his lack of knowledge of forestry subjects, topped the list with a perfect rating in the intelligence test, both for accuracy and time. One of the wealthiest farmers in the county who has been antagonistic to the Service for years, but whose daughter won first prize, unexpectedly came into the Supervisor's office and praised the work among the school children in no uncertain terms. Another grazing permittee, rather curt of speech and a leader in a community of light burning advocates, suprised us all by stopping a couple of Forest officers on the road and crisply remarking, "You are doing a fine work - keep it up. You can't change the ideas of us old timers, but the younger generation must get a different view of things for the good of the country."

Craving editorial indulgence, here are a few slogans from among the many hundreds submitted:

"Keep California Green."
"Quench Fires-Conserve Forests"
"Your forest, my forest, don't burn it."
"Don't fish for fire - it bites without bait."

"A tree saved is a future friend"
"Be sure your fire is dead - then bury it."
" A spark, a breeze, burned down trees"
"Dead camp fires or dead forests"
"A country without trees is hopeless.
Put out your fire."

YE EDITOR DISCOVERS

Large fires had been burning for several days on the Lassen, Tahoe, Sequoia, and Santa Barbara, according to a wire received from District 5 on July 17. Twelve thousand acres of brush and timber had been burned and 700 men employed. Two small fires had also been reported on the Angeles and one on the Modoc. All the fires were under control except the Lassen fire, which had burned over 6,000 acres. The estimated expenditure on these fires to the above date was $15,000.

The Associated Press also reported on the above date a 6,000 acre fire on the outskirts of Sierra, one near Tahoe, and two in San Joaquin Valley that had burned 85,000 acres of grass and brush.

A wire received from District 6 on July 18 reported three fires which had burned over 3500 acres south of Lake Quinault, 1500 acres in the Quinault Indian Reservation, and 1500 acres in the Olympic Forest. Most of this acreage was cut-over reproduction. Four hundred men were employed by two logging companies. The cause of the fires is given as "lumbering." The damage is undetermined.

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Because of the growing interest in American conifers abroad for all sorts of purposes, there is growing also the desire of foreign foresters to have seed of our species for trial and experiment. Already some 15 countries have requested seed from the Forest Service officially, and the task of supplying it is enormous. The requests for most of the seed show that there is a keen appreciation of the need for getting seed of the best trees and from climatic regions similar to those under which the seed is to be planted. Other requests ask only that we give complete data on the kind of trees from which the seed is procured as well as information regarding locality. As the demands are large, anyone collecting a small quantity of seed can send it to the Office of Forest Experiment Stations with the knowledge that it will find its way to some foreign land. Data on the source of seed should come with each packet of 4 ounces or more of seed.

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The use of charcoal gas, as a substitute for gasoline in motive power production, is featured at the Versailles Forestry Exposition, which began June 15, 1928. Statistics have not been gathered to show the extent to which charcoal motor fuel is employed in France, but it is rapidly increasing. Many motor vehicles in Paris now use the fuel and in the Department of Loir-et-Cher, motor-cars are operated exclusively with the gasoline substitute. It is claimed that one kilogram of charcoal mixture, obtainable at one franc ($.04), produces motive force equal to that resulting from one litre of gasoline. It is one half as expensive as the latter.

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According to telegraphic statements received by Finance and Accounts, the total expenditures of Highway money fiscal year 1928 exceeded the allowable $4,500,000 by approximately $59,000. This is probably due to not having carried out completely procedure approved by the Bureau of Public Roads in Washington and sent out as instructions to the field. The total Forest Road Development expenditures will probably be slightly less than the authorized $3,000,000. It is greatly regretted that the total was not kept within the $7,500,000. Nevertheless it is generally recognized that coming as close as we did was a noteworthy accomplishment. Mr. Allen of the Bureau of the Budget recognizes it as such and we therefore believe that there will not be unfavorable criticism by the Budget Bureau because of the excess.

RANGE DETERIORATION

By M. M. Lewis, Siskiyou

Quite a little time has been spent on our grazing records the past year, which has brought out a great many interesting points. One thing more, our grazing business on the Siskiyou isn't very large, but it has some possibilities, which will demand a certain amount of time and study. One of the points of most interest is that our records show less feed and larger brush fields in the districts and localities which in the past have been the heaviest burned. If any one should get the idea that burning over the country makes grass, he is certainly on the wrong track. A fire will stimulate a growth of weeds and browse for a year or so, but in the long run the more valuable forage species will give way to the more inferior and hardier species, which in most cases have little or no value for grazing. I believe that in time, if we can keep the fires out, we shall have considerable feed coming in under stands of open timber which are now in the seedling or sapling stage, with a ground cover of brush. As soon as the brush begins to shade out, plant life will begin to make its appearance, and as the process of natural thinning of the tree growth develops, timber feed will begin to thrive as it once did.

Fires are not alone responsible for range deterioration. Range abuse has contributed largely to our present range conditions. The average range user, probably as you and I would be under similar conditions, has but little interest in building up range for someone to use a hundred years from now. Consequently range management looks like a pretty far-fetched proposition to the average small user, such as we have on this Forest. However, it is one of our jobs to perpetuate the grazing industry and it is up to us to formulate plans to produce the desired results. So long as we have any demand for grazing and continue to approve applications for grazing permits, we should have something to sell in the way of forage, and we must be able to give the best possible pasture that we can develop through proper range management.

ON THE SALT WATER FORESTS OF ALASKA

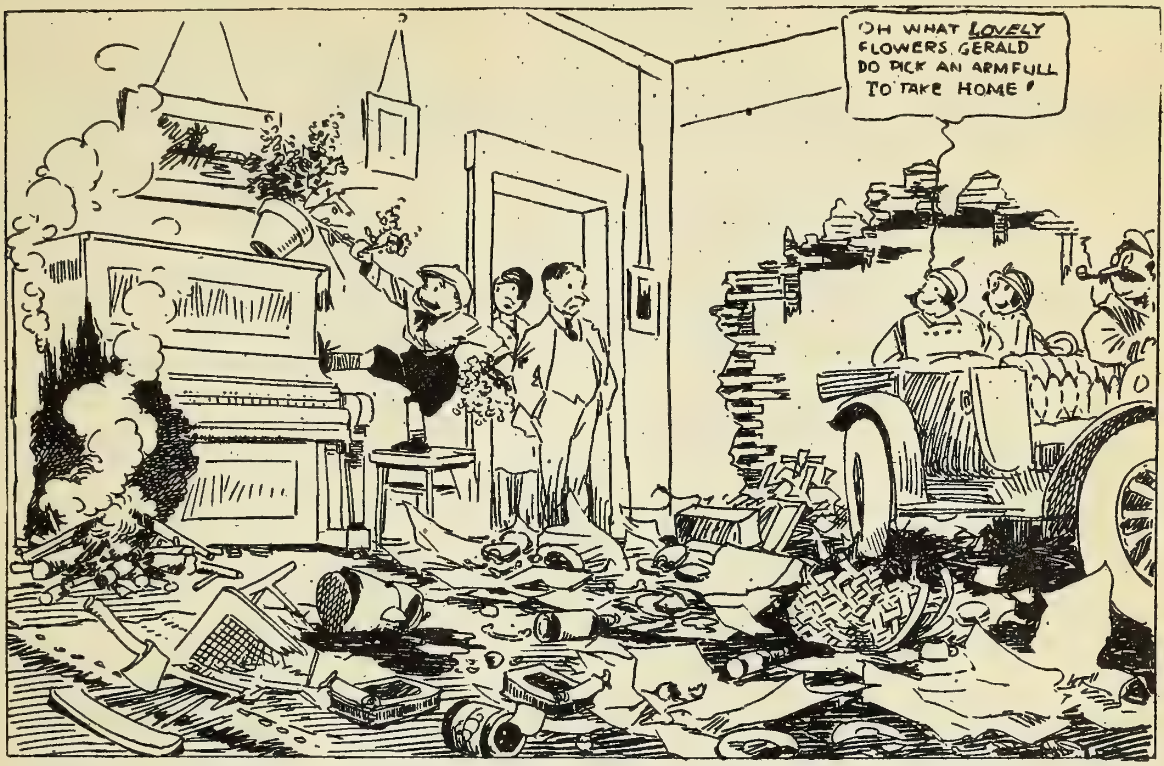
Ranger Archbold of the Tongass sends in a tale of suffering and unparalleled hardship on the salt water forests of Alaska. He says, -

"Anderson left his camp on March 8th, in his little gas boat to accompany me in cruising and surveying the sale area on the mainland in Blake Channel. When he left the area and got back to within several miles of his camp at Brownson Id. he ran into scum ice which so cut up the bow of his boat that it began to leak badly. He managed to beach the boat and calk it up but darkness overtook him and he decided to stay the night. So he bailed the water out of his boat and started a fire in the stove. Then being wet he started to change clothes. This proved a mistake for the gas fumes from the bilge ignited and the boat became a mass of flames.

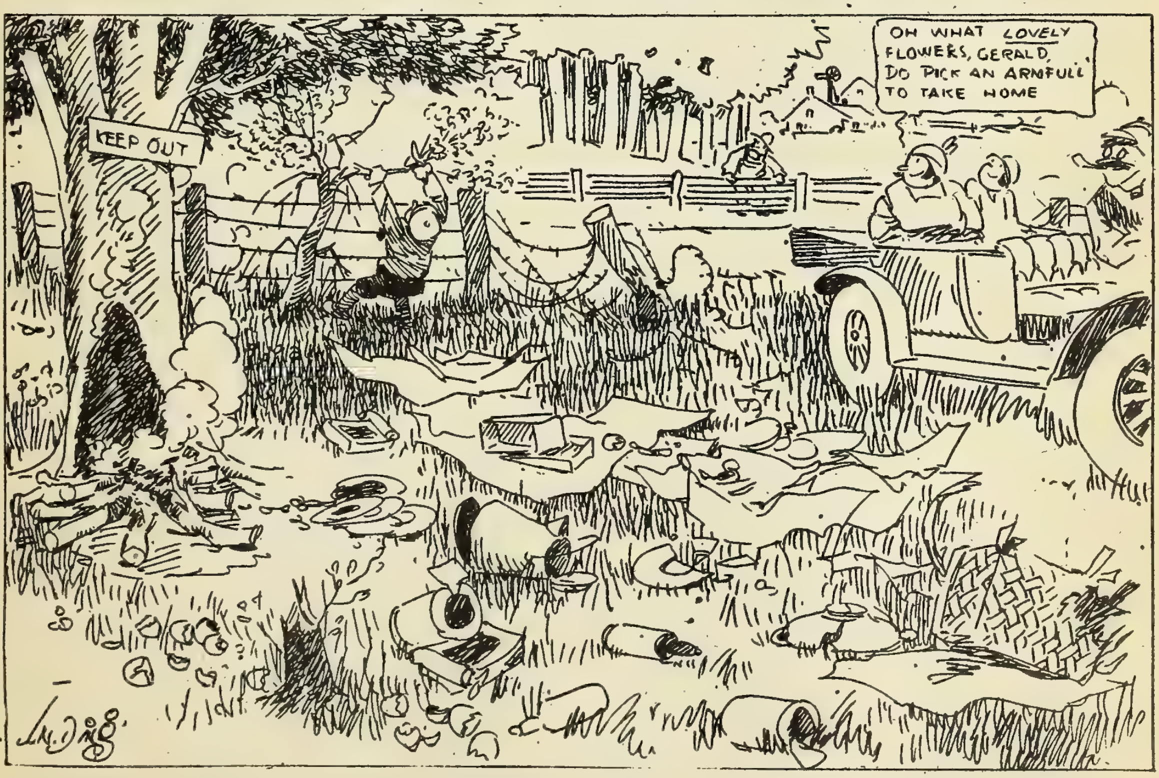
Anderson didn't loiter while leaving the boat. He was sans clothing to some extent and entirely without boots. The tide was in, it was snowing and growing colder. and he was some three miles from the camp. There was nothing for him to do but wade through three feet of snow in his socks over sharp edged boulders and a beach fringe of crab apple, alder, devils club, and scrub cedar. Anderson says he was in pretty bad condition when he crawled into camp at 3 A.M. but after a few hours near the stove he thawed out and suffered no after affects."

- District 8

IF WE TREATED OUR HOMES AS WE DO OUR WOODS


OH WHAT LOVELY FLOWERS, GERALD DO PICK AN ARMFULL TO TAKE HOME!

WHAT A LUCKY THING FOLKS NEVER TOOK TO HOLDING PICNICS IN PEOPLE'S HOUSES.


KEEP OUT
OH WHAT LOVELY FLOWERS, GERALD, DO PICK AN ARMFULL TO TAKE HOME
J.N. Ding

MORAL: TAKE YOUR INDOOR MANNERS WITH YOU WHEN YOU GO OUT DOORS

GENERAL FEDERATION OF WOMEN'S CLUBS
Conservation of Forests and Natural Scenery
Mrs. Frances E Whitley, *Chairman*, Webster City, Iowa

> In the administration of the forest reserves it must be clearly borne in mind that all land is to be devoted to its most productive use for the permanent good of the whole people. * * * Where conflicting interests must be reconciled, the question will always be decided from the standpoint of the greatest good of the greatest number in the long run.
>
> James Wilson, Secretary of Agriculture
>
> February 1, 1905

FOREST SERVICE U S DEPARTMENT OF AGRICULTURE

Service Bulletin

Contents Confidential

Vol. XII. No. 32 Washington, D. C. August 6, 1928

THEN AND NOW

By John Kirkpatrick, Rainier.

Just 20 years ago today (April 1) I began work for the Forest Service as a Forest Guard at this Station. Since that time I have never worked in any other district, except for a few days of special detail now and then. In 1910 and 1911 I lost 6 weeks' time, leave without pay. Great changes have taken place since that day in 1908. We had no tools, worth mentioning, no telephone lines, no pumps, no trucks, few trails and roads, and those few, poor. When we went north in the Silver Creek area we walked through the unbroken woods. When we went south of the Vance settlement in this Valley, we either walked or rode old Dobbin over a very bum trail. The Ranger at Skate Creek Ranger Station (Lewis) and myself constituted the puny and insignificant protective force that year for the entire Cowlitz and Cispus drainage areas and we were absolutely without experience in fire suppression work. I, at least, had no real conception of the responsibilities of the job. It is lucky that we did not have electric storms that year. We now feel that our present protective measures are inadequate, and they are to a more or less extent, and yet this same area will be protected the coming summer by a hundred or more men, if we may count improvement crews, the individuals of which are far better qualified to render efficient fire suppression work than we were. It probably is just as well we did not know what we were up against, for our peace of mind at least, and just as well for the Service, because we did not have anything to work with anyway.

Twenty years is a good long time to keep a man in one place and at one job. Most Rangers, I believe, who have served that length of time have been moved about more. I suppose the reason for thus keeping a man "put" is fairly susceptible of being interpreted in two ways. One may be that he is too "ornery" to work any place else, and the other may be that he is worth more, or considered to be so, in that particular place, because of special knowledge of local conditions, etc., than a new man might be expected to be, for some little time at least. Whatever the reason may be that has kept me here so long, it does not worry me in the least. I like the work and feel that most of it is worth while, some traces of which will linger long after I have reached the end of the long trail; by and large I like the neighbors, I like the men I am so closely associated with in the day's work, one of whom has been on the job year after year for 14 years, and the majority of whom have worked with us every consecutive season for the past 10 years; lastly I love the rough and rugged mountains, having clambered over them so long that it sometimes almost seems as if they ought to belong to me. The one "fly in the ointment" is that each year now it takes just a little longer, and the effort is accompanied by just a little more fatigue, to gain the crest where I can rest awhile and contemplate the amazingly beautiful panorama as far as the eye can see in all directions, of canyons, craggy mountain tops, small emerald lakes here and there of blue, limpid water, green forested hillsides, broken here and there by the blight of previous forest fires, rock strewn serrated slopes, and the perpetual snow peaks, which can be seen from all the mountain peaks in the District. Yes, I'm satisfied to carry on where I am as best I can, knowing full well that the toll exacted by old Father Time is no more applicable here than it would be elsewhere.

RANGER-FORESTER

En Route Boise-Chicago
July 21, 1928.

While seated, in uniform, in a Denver restaurant recently Allen Peck and I were asked by our waitress whether we were Forest Rangers. She apologetically explained that she had just come from Kansas and had never seen any Forest Rangers, although she had heard a lot about them. Allen and I were mighty well pleased at the identification and told her she was dead right.

Of course, we did not learn what she may later have told the other waitresses or have written home of the impression formed, but we looked and acted the part as best we could.

(Signed) R. Y. STUART

MR. POTTER TO MR. BARNES

Dear Will:

The compliment paid me in your story "Grazing on the National Forests" in the April issue of "The News Letter" published by the New York State College of Forestry is very deeply appreciated. The pictures bring back memories of the early days. Credit for the success we had in working out a set of principles which have stood the test of time belongs very largely to yourself and the other men whom it was my good fortune to interest in the grazing work. While we made some mistakes that the stockmen might justly criticize, this was more than offset by the good we did for them in keeping the ranges in use while the forest problems were being worked out. On the whole, I think we may well be proud of what has been accomplished.

You will be interested in hearing about my latest trip into the "wilds" with my friend Mr. Wilson, who has been my companion on so many other occasions. This time we went down into Lower California. We were unable to get any very satisfactory information about roads or auto travel, and so started out with the determination to go as far as it was possible to drive an automobile. The end of the road was Mulege (pronounced Mool-e-hay), which is on the Gulf of California across from Guaymas and about 50 miles farther south. Our speedometer indicated that we had traveled about 725 miles from the line at Tia Juana in getting there.

Upon entering Mexico, when we asked for more time than is allowed by the usual 10 day permit, the Mexican Custom House officials right away wanted to know the nature of our business. When we replied that we were tourists just going down to look at the country, they evidently thought we were either liars or "tontos". So they said that we would have to get some one known to them to vouch for our responsibility and give bond for payment of the duty on the car in event we did not return. Happily I thought of our friend C. B. Irwin of Cheyenne, who had a string of horses over at the race track. So I ran over and hunted him up and he hopped in his car and went with me to the custom house. When they saw Charlie and he told them he would stand good for anything I agreed to do, everything was lovely and we had no further trouble getting a 30 day permit.

We ran down to Ensenada the first day and stopped there to sort of get the lay of the land. The Auto Club had given us "dope" on the road as far south as Rosario, but doubted whether we would get much beyond there.

About the first thing I noticed was a bulletin board giving information about a stage which ran to Santa Rosalia twice a month, and my partner said we surely could go any place a stage went. Further inquiry brought out the information that there was a passable road all the way but no gas stations that could be relied upon and no garages. So we lashed a 10 gallon case of gas on each side of the car and the next morning rolled merrily out of town.

Only went 15 miles that day, because we had guest cards for the La Grulla Gun Club and found it a delightful place. There are about 180 American members who go down there duck and quail hunting in the season, and they have a big time. The next day we rolled along up the valley of the Santa Clara river, passing many ranches, and over the divide into Santo Thomas valley, then on down through a rolling country until we came out on the shore of the Pacific Ocean and there we camped. This day's run had been through a good grazing country and we saw a great many cattle and horses all of which were of fairly good grade. Also we saw quail by the thousand and sometimes almost ran over them with the car before they would quit the road or fly.

The next day we went on down to the Hamilton ranch where we were able to fill the tank of the car with gas and ourselves with a fine ranch dinner. The owner of the ranch, Hattie Hamilton, is an Irish girl born in Cork who had to become a citizen of Mexico in order to hold the property which was left to her by her father. It is a dandy place with all kinds of fruit, including oranges, bananas, grapes and peaches, and all kinds of vegetables and berries, as well as a large acreage of hay and grain land. That afternoon we went on down to San Quentin which in years gone by has been quite a shipping point with the railroad running in from the gold mines and all that sort of thing. At present, however, the business of the town is concentrated in one Chinese merchant who also is a shoemaker and tailor. In addition to his stock of groceries. which were of good quality, he had about one dozen pairs of good looking shoes which he had made, and on the day of our visit was busy with a Singer sewing machine making a suit of clothes. We found that many of the merchants in the smaller towns are Chinese and that apparently they are well thought of by the Mexicans.

Bidding San Quentin goodbye we drifted on down the coast, and about sundown camped near an old whaling station where there was a little lake of fresh water. Here we found and killed the only rattlesnake we saw on the trip, although we had been told that they were numerous and warned to watch out for them. It was a genuine diamond back and knocked splinters out of a stick which I used to get him out where my partner could take his picture. The next morning just as we had finished breakfast, here came two Mexican freighters who evidently had been traveling all night. You can imagine their surprise when I went over to their camp with a pan of hot biscuits in one hand and a coffee pot in the other and said to them "Llege amigos, almuerzo esta listo." That was a new one on them, and while the mules were eating their grain and a little batch of hay, we had a regular visit and learned a lot about the country ahead of us. My sheep herder Spanish came in handy all along the line, and I might say right here that every place we went we found the Mexicans friendly and courteous and willing to give us every possible assistance. They simply treated us fine and made us feel that we were welcome among them.

Rolling along the next day we went down into Rosario valley and then struck inland through the hills. Stopped a while to see the ruins of old Mission San Fernando, went by several cattle ranches, and that night landed at the Onyx Mine. We had now got into the real cactus country and some of the "cactus gardens", as I called them, were simply beautiful. The century plants, ocotillas, prickly pears, barrel cactus, and others were all in bloom, as also were the "Cirio" trees. This was new to me. The "Cirio" has a yellowish-green bark, something like a Palo Verde, with a mass of little short limbs full of bright green leaves about the size and shape of those on "buck brush", and clusters of white blossoms at its top. Some of these trees were 50 to 60 feet high and ran up above the giant Sahuaras. I never have seen them in either Arizona or California.

We laid over one day at the Onyx Mine, which is owned and operated by the Southwest Marble and Onyx Company of San Diego, and employs about 150 Mexican workmen. They haul the blocks of onyx about 50 miles by motor truck to the shore of the Pacific Ocean and load it on their own boat which makes a semi-monthly trip to San Diego. That means they use a lot of gasoline, so we were able to fill our tank once more. We were now in what is called the "central desert" section of Lower California, and it well deserves its name. There is only one road running through it and no chance to get lost because it is practically impossible to travel with an automobile anywhere except in the road. After a long day through this sort of stuff and during which we did not either meet or pass a single outfit, either mule or auto, we pulled out at one side of the road to camp and punctured two tires with cactus thorns. The only joy we got out of that day was seeing two fine fat deer and hundreds of quail and rabbits. We were told that there were a great many deer and antelope in this part of the country and I do not doubt it as there is all kinds of browse feed for them. Our friend Dr. E. W. Nelson made a trip over this country in 1905 and no doubt can tell you all about the wild game. I saw quite a lot of cattle sign but only a few cattle and those, although in good flesh, were of much poorer quality than the studd farther north. A few days afterwards we passed a trail herd of beef steers bound for Santa Rosalia. There were four "vaqueros" with about 100 head of cattle. The men wore leather coats and "chaps" which looked like a bunch of wild cats had been working on them. I imagine that they have a lively time rounding up some of the wild ones in that rough brushy country.

Continuing on down the peninsula we were surprised the next morning by suddenly coming out on the shore of the ocean and running along the beach for about 12 miles. It was a delightful change from the boulders and cactus. The ocean shore was covered with beautiful shells which I gathered by the armful and then discarded all but a few samples.

Striking inland again we arrived at the mining camps of Calmalli and Saline that night and were able to replenish our gas supply once more. This is a gold mining country and like most others the big bonanza is just about to be discovered and now is the time.

Going on south the country becomes more open and there is more sign of cattle grazing. At noon we reached the old Mission of San Ignatio, which is in a fertile valley filled with date palms. The church, built along about 1750, is still in good condition and constant use. It is a very attractive building with a touch of Moorish in its architecture and exterior decoration. The interior wood carvings and decorations are beautiful and well preserved. After seeing the sights of the town we continued on our way and that night camped on the shore of the Gulf of California.

The next morning we pulled into Santa Rosalia, which is a city of about 4,000 people, made up of 300 to 400 French and the balance Mexican. I did not hear of a single American living there. It was carnival day and the plaza was crowded with people dressed in their best and out for a good time. We sat at a table in front of one of the "cantinas" and sipped our lemonade just like we belonged there. Mr. Wilson said he didn't believe one could find a more foreign atmosphere anywhere in the world. It certainly seemed a long way from the U.S.A. At noon we had a really good dinner at the "Hotel Central" at a cost of 62½ cents each (dos reales Mex.) Food is cheap and everything else expensive. However we filled up with gas again at 45¢ per. Santa Rosalia is supported by a big copper mine and smelter owned by French capitalists. A line of small steamships is operated direct between there and France. Once a week a small steamer comes over from Guaymas, which is directly across the Gulf of California. After dinner we drifted down to Mulege which at present is the end of the road. In a few years more it will be extended through La Paz. Mulege is one of the oldest of the Lower California Missions and was founded by the Jesuit padres in about 1705. It was here that the Spanish explorer Ugarte had timbers packed out of the mountains by the Indians, with which to build a ship and determine for the King of Spain whether or not Lower California was an island, as claimed by early English navigators. There are many interesting things about the early history of this country. As I see it, one of the main facts is that nothing of sufficient value was ever found there to cause any very big fight to be made over it.

After resting one day at Mulege, we drifted back the same way we came, as there is no other road out, and in due time reached Ensenada minus our two cases of gasoline, which were used up on the return trip. At San Diego I had a broken spring replaced and the front axle of my car straightened, which was the sum total of damage aside from numerous tire punctures by cactus thorns. I have driven my Packard "6" roadster about 40,000 miles, now, including many rough ones, and it is still going strong.

*** *** *** *** *** *** ***

With best regards to all,
Sincerely yours,
(Signed) A. F. POTTER.

MORE ON EXAMINATION

By Fred Morrell, D. 1.

Mr. Forbes' comments in the May 21 issue of the Bulletin, regarding the value of writing as a stimulus to education, are well taken. But I wonder whether Forbes may not have over-estimated the ability of most of us,--not so much to write as to study. It must be assumed that he who writes technical articles for publication knows more of his subject than do most of his readers. That means, as Forbes points out, that he must study, and I agree that most any one can produce articles worth while if he will study long enough and hard enough. But the fact remains that out of the many thousands of people who have studied industriously and to good effect, only a few ever write anything. "There's a reason," and it is largely, I think, that people do not set themselves to the task. Forbes says they should,--and that is agreed to,--but if they don't and won't, what then? The common way to bring such things about in all educational institutions is to set a task for the student. The undergraduate is required to write examinations and other things. The graduate student is required to write a thesis.

There is the occasional real student, in the Forest Service and elsewhere, who sets his own tasks. He doesn't need any outside stimulus and will do better if left alone than if some one tries to help arrange his study. But most of us are not that way,--we do not know how and what to study, or we are too indolent to arrange a course and carry it through. We need something to help set and hold us to the task. It is in recognition of that need that the so-called study courses have been so generally offered in the Forest Service. These courses have had a vastly beneficial effect on the education of our personnel, notwithstanding the fact that there are outstanding students in our organization who have never taken one of them.

Now my suggestion for examinations is, as I see it, not very much different from what Forbes has proposed,--we both suggest that people in the Forest Service write. Forbes proposes that we each set ourselves to the task, and write something for publication. I propose that the Service afford the stimulus that so many of us need,--help set the task and give us the benefit of that mass psychology which makes it easier for most soldiers to go over the top with the battalion than to go out alone on scout duty.

We have carried on the general study courses which outline the work for each lesson. My proposal is that we go on from that to writing examinations, leaving the student to prepare for them in his own way. I think Forbes and I are in agreement except perhaps on the one point of setting up stimuli for individual study.

WHAT AND WHY IS NEWS?

By C. E. Randall, Washington.

Struggles and Controversies: Mankind has never lost its primitive love for a fight. An argument between two taxi-drivers, a schoolboy row, a dog fight, will always draw an enthusiastic, cheering crowd. Contests of all kinds have almost universal appeal. The movies recognize this, and you can bank on a large percentage of motion pictures furnishing a good, lively hand-to-hand encounter with the villain before the handsome hero clasps the clinging heroine in his arms to gaze into her languishing, limpid, liquid, light blue eyes for the final fadeout.

Anything which involves a contest, a battle, a struggle for supremacy, can be counted upon for news value. In the newspapers, the outstanding examples of this type of news are the war reports, the sport news, and the accounts of rivalry in politics.

To say that fights and controversies make excellent news is not to advocate, however, that the Forest Service go about with a chip on its shoulder for the benefit of the PR men. Obviously it is the part of wisdom for the Forest Service to keep out of controversies as much as possible; and if any controversy does arise, we want the public on our side. There are times, though, when it is necessary to speak up to prevent our toes being trod upon. In such an event, it is probably agreed that a clear, logical statement of our position, as simple and understandable to the reader as possible, is the most effective. As a public agency, we cannot indulge in personalities or caustic comment such as characterize many other newspaper controversies, and these are usually the resort of those who have no other legs to stand on, anyhow. It is well to avoid a defensive attitude in controversial statements. Don't argue, if it can be avoided; state facts. An argument usually is an invitation to a counter-argument. When we can do so with sincerity and conviction, we can take the attitude that our position is obviously the right one, and that the opposition is based on misunderstanding or mistake.

We have plenty, however, to furnish a contest element in news, without going into controversies. Our whole forestry work is more or less a struggle against the elements, or against destructive forces. A forest fire, that is most prosaic in every other respect, may sometimes be given news interest by emphasizing the struggle element, by emphasizing the fact that we are fighting fire. Similarly, the attempt to reestablish forest growth on a difficult area represents a struggle, and can be given news interest by treating it in that light.

The struggle of law and order against incendiarism or other law-breaking activities has news interest. Good stories can be made on this, either dealing with the general situation, or with specific cases.

Frequently, the daily work of the Forest officer involves a struggle of some kind or another. Whether he engages in a catch-as-catch-can contest with a bear, or merely undertakes a difficult job, if there is a struggle involved, it will make a news story.

The news value of accomplishment of a task, or establishment of a record, already has been pointed out. But we do not have to wait for the completion of an undertaking for it to have reader interest. We can let the public in on the fact that we are out to break all records for reduction of acreage burned this year, or that we face an unusually bad fire season, or that we are having a tough time bringing back a depleted range area. We can make a sporting contest out of some of our undertakings - we may be trying to beat the fire record or planting record of the next Forest, or our own of last year.

FIRE PREVENTION CAMPAIGN TO COVER NORTHERN CALIFORNIA

"What Price Fire?", a thrilling motion picture showing how Dan Crockett, a miner and packer, won an uphill fight against the "Red Enemy" of the forest, is the main attraction of a fire prevention campaign being conducted by District 5 in northern California this summer. The picture was taken in 1927 by Fair and Hutchinson in the Mt. Shasta, Klamath River and Marble Mountains region of Siskiyou County, with local settlers as leading actors, and contains many beautiful shots of noted scenic attractions, game animals and birds, and high mountain scenery.

The purpose of this educational campaign, is to arouse public sentiment throughout northern California against forest and brush fires which in the past five years have burned over more than 500,000 acres in this region, and have caused a loss of timber and forage resources alone amounting to over one million dollars. Much loss of wild life has also been caused by these fires, and many tourists have yearly left the country, with resultant loss of revenue to local business concerns, because of the fire hazard.

Neary one-half of all the fires that occurred were man-caused and a large percentage of these were set by incendiaries. The campaign, therefore, is directed primarily against the "fire-bug," upon whom the Federal Government has placed a "bounty" of $500 for information leading to the arrest and conviction of such men who are a menace to the progress and prosperity of the State.

The educational fire prevention campaign started at Redding on May 22, and has already covered 22 towns and reached 3,153 people in the Sacramento Valley and Klamath River region. It will be continued until the middle of October and will cover 117 towns and cities within and adjacent to the Shasta, Klamath, Trinity and California National Forests, and along the Redwood Highway from Crescent City to the San Francisco Bay region. Many out-of-the-way towns and settlements in the mountains, where motion picture shows are a rarity, will be visited.

During the period of the fire campaign schedule, a motion picture show will be given each night, except Sunday, and will be free to all. In addition to the three reel feature "What Price Fire?" there will be a movie entitled "She's Wild," with bronco busting, steer roping and tying and other exhibitions of cowboy prowess at a frontier day celebration; a fire picture titled "Why?" taken in the big timber country of the Pacific Northwest, and a brief talk illustrated with beautifully colored lantern slides showing the loss by fire of valuable timber, recreation, game and fish resources.

To carry on this campaign in northern California, the Forest Service has equipped a Graham 3/4-ton panel truck with a Kohler 1500 watt electric generator, motion picture projectors, stereopticon lanterns, screen and other necessary paraphernalia for putting on a complete movie show, not only in large towns but in mountain settlements. One unique feature of the fire prevention truck is the fire slogans painted on the back and side panels, which read: "U. S. Forest Service Educational Fire Prevention Campaign, Prevent Forest Fires - It Pays"; "Fire Prevention is My Business, Your Business, Good Business"; "Fire Prevention means Green Forests, Flowing Streams, Fish and Game."

Forest Ranger Asher Ireland, with 18 years' experience in the Forest Service on the Pacific Coast, is supervising the campaign. - H., District 5.

YE EDITOR DISCOVERS

The Director of Information has made definite allotments from the printing fund to each bureau of the Department this fiscal year. The Forest Service allotment is set at $50,000, which is about $15,000 less than we spent in the last fiscal year for printing. The printing fund last year was exhausted by the 15th of May, so that a number of publications had to be held up until the beginning of the new fiscal year. These publications have now gone to the printer. They will make a considerable hole in the allotment for this year, and it is going to be necessary to cut the corners pretty carefully if we are to make our printing funds hold out until next July.

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According to wires received from Districts 1 and 5 on July 23, fire conditions in these Districts were as follows:

District 1 -"Severe electrical storms set 80 fires, all Class A except three. Fire expenses $1800. Last three days hot and dry but conditions throughout District generally favorable. No fires burning."

District 5 - "District has just passed through a very dangerous fire period which started July 13. Expenses $4500. High temperature with low humidity made it difficult to control fires. Fifteen thousand acres burned inside Forests last ten days. All fires now under control. Weather conditions a little more favorable."

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The Forester has changed the policy relative to expenditures of Development money during the fiscal year 1929. The amount specified as the expenditure limitation in any State will not be based on the apportionment to that State plus amounts which the District had loaned to other Districts but will be the total amount which may legally be expended. This will increase somewhat the total expenditures previously estimated but it is not believed that the total will anywhere near approach the approximately $4,200,000 which is legally possible.

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The 1927 Agricultural Yearbook, which has just been distributed, contains 25 articles by 17 authors of the Forest Service.

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"Why Grow Timber?" a study of the world's timber supply, by W. N. Sparhawk, is just off the press. It gives interesting facts about the amount of timber we need, how much we can depend on other countries for wood, and what the possibilities are of growing an adequate supply at home.

ARIZONA GETS GIANT TORTOISES

The William Boyce Thompson Southwestern Arboretum at Superior, Arizona, will be the home of 20 of the giant land tortoises brought to this country for experimental purposes from the Galapagos Islands by Dr. C. H. Townsend, Director of the New York Aquarium. Belief was expressed by Dr. Townsend that the tortoises would thrive in Arizona and do as well, if not better, than in their native land on the equator, 800 miles west of the Panama Canal Zone. Cacti, he said, are the principal food of the tortoise in the Galapagos Islands and the desert of Arizona have all species, so that feed will not be lacking for the new residents. The 20 giant tortoises placed in the arboretum at Superior are all babies and weigh from 25 to 50 pounds, the largest of them being about the size of a small wash tub. Full grown, the giants weigh from 450 to 700 pounds and stand between three and four feet high when they raise their shells to take a stroll. The experiment has a two-fold purpose, Dr. Townsend said; first, as an economic effort to determine if the land turtles can be raised for food, and second, as a movement to keep the species from becoming extinct. The huge turtles, he said, are exceptionally fine food, and are classed by sailors as a delicacy second to none. It is claimed, he said, that the meat of the tortoise exceeds in flavor that of the diamond-back terrapin. - District 3.

WISCONSIN APPROVES FEDERAL PURCHASE WORK

On May 23, the Public Land Commission of Wisconsin consisting of the Attorney General, the Secretary of State, and the State Treasurer, gave its approval to the establishment of three purchase units in the State of Wisconsin. This approval was made contingent upon the payment of certain school bonds that existed as a lien upon the land within certain townships. At a previous hearing, the Public Land Commission had withheld approval in spite of strenuous efforts on the part of the counties within which the units were located to obtain favorable action. At the time approval was obtained, the Forest Service was represented and the previous refusal was found to have been based largely upon a misunderstanding of just what the acquirement of land by the United States would mean. - E. W. T., District 2.

> In the administration of the forest reserves it must be clearly borne in mind that all land is to be devoted to its most productive use for the permanent good of the whole people. * * * Where conflicting interests must be reconciled, the question will always be decided from the standpoint of the greatest good of the greatest number in the long run.
>
> James Wilson, Secretary of Agriculture
>
> February 1, 1905

Service Bulletin

Contents Confidential

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THE MAN NEXT DOOR

By C. M. Granger, D. 6.

Once again I have found out how easy it is to become provincial and unaware of what good things the neighbors are doing. We get so wrapped up in our own tasks and problems, and ways of solving the problems, that we unconsciously drift into the frame of mind that nobody else can possibly be doing as much work as we are, and that we are pretty much sufficient unto ourselves. At least I suppose (and hope, for the sake of my pride) that others have the same human weaknesses in that respect as I.

The motif of this song is that I have just spent ten days at the Madison Laboratory. During a long interval of not visiting that workshop, I had drifted into a state of almost complete ignorance of what they were doing that would make any difference out where the trees grow in forests. Through habit of mind, I suppose, I naturally assumed that some one at the Lab. was still trying to find out how many times a box of canned goods would have to drop from the top to the bottom of a junior Ferris wheel before a couple of No. 2 cans of peas would burst forth from the tortured woodenware, thus disclosing embarrassing structural weaknesses in the box. And I subconsciously assumed that John Newlin or one of his cronies was still seeking to know how many times a good heavy anvil could be dropped from a great height onto a two-by-scantling before the abused piece of wood would crack for a row of splinters.

But it isn't so. They are away past those stages. For the better part of five days I heard one after another of the Laboratory staff get up before our group and tell without stutter or verbosity just what studies he had been making during the year, why, and what comes next. I must admit that some of the more fundamental researches were pretty deep for me - the exploits with pentosans and variations in cell wall structure, and chemical changes in wood sugars, and so on. But the men who are making these studies can tell you the practical value of them, and then it all seems perfectly obvious.

On the more immediately practical side there is a long list of things of material importance to the task of keeping forests growing on all our forest land. The Laboratory has headed a logging and milling study in District 7 to show how small a tree it pays to log - aimed at bringing about selective logging on private land. They are studying a tricky defect in wood called for the nonce "compression wood" - a defect, largely one of unnatural density in spots, which causes excess shrinkage and brashness. It may prove to occur heavily in leaning trees, and if so, we shall probably use the marking axe heavier on the leaners.

There is a study underway to develop the use of southern hardwoods for newsprint.

I tried to talk them out of that because we claim to have abundant newsprint pulpwood of better species in District 6, but they about half convinced me that it will take the southern woods too to make the United States self-sufficient in newsprint, and that would be important if we got into any more wars.

One of the most important findings of the Lab. is a way to cook wood so as to materially increase the pulp yield. This will translate itself directly into dollars of profit from timber growing.

Consumers need to get more uniformly seasoned stock if wood is to compete successfully with substitutes. The Lab. is developing better ways of kiln and air-drying lumber, and also has a nobby little machine underway which discloses the moisture content of a board by measuring its electrical resistance. I had to go back to the Laboratory to find that right here in District 6 a similar type of machine is being used at the planer in the Long-Bell mill at Longview. It chalk-marks every piece over the acceptable limit of moisture content. There is a nation-wide movement rapidly approaching fruition to sell lumber not only by grades but by stated ranges of moisture content - said moisture content having a material effect on how suitable the lumber is for shop and structural work. Incidentally, Tiemann has found that feeding wood a mess of sugar in solution keeps it from shrinkage, and will also unshrink a piece of wood already gone wrong. This may be a common practice in the upper grades one day. And the Lab. has an experimental house nearby in which they are discovering the difference and range in moisture content of the various wooden parts - walls, floors, ceiling, joists, door frames, and so on. Maybe some day you and I can build a house that won't warp and shrink enough to let the cold in and the cat out.

People at the Lab. are thinking about fire, too. Not only fire-proofing wood, but they have just tried out a new fire extinguishing liquid which may do fine on small fires if carried in a man-pack hand pump. Kotok was there, and he is going to test it in California, and if it puts out a California fire, all other conflagrations will be pie for it.

Furthermore, in fire lines, they have developed a "squeezeometer" into which forest duff can be packed, compressed by turning a corkscrew-like handle, and when moisture appears in a little vent hold you read the moisture content per cent on a gage on a plunger. This will help the experiment stations. It is rumored the squeezeometer was developed by Cap Winslow for getting cooperation out of the Navy, and others. He didn't deny it, nor affirm it. Cap wouldn't.

One thing impressed me greatly - the systematic way the men, one after another, stepped up and told their stories, and the most understandable way they can present their stuff. They use the blackboard and simple charts extensively. We in the field who often have to tell the world what we are doing and why, ought to study their methods. And furthermore they know lots more about our problems and what is going on out in the West than we do of what they are doing, and sometimes they know more about our own business than we know ourselves.

I came home again convinced of the untold value of interterritorial visits. It is good for the mind and the ego. It is also good for the flesh and the spirit to go to Madison, for we were picnicked and driven and golfed most hospitably.

A THOUGHT ON AMERICAN FOREST WEEK

By D. F. McGowan, Washington.

Tremendous impetus has been given to the cause for the conservation of timber and other natural resources of the country through the activities coincident with American Forest Week. A prestige of great value has been gained through the participation of President Coolidge and other eminent speakers in the program. Yet it is doubtful whether American Forest Week, unaccompanied by a more pointed follow-up program, is productive of the greatest results with the general public.

I find in talking with several of my

friends who are in commercial life, and who were quite interested in the activities of American Forest Week, that now, after the lapse of a few months, they have but a hazy recollection of what the week was all about. If these men are typical, then more must be done to implant and to keep afresh in the public mind the things we are advocating. The good that is accomplished by American Forest Week is greatly diminished if the public is allowed to forget, before another annual week rolls around. American Forest week needs augmentation.

Regional forest weeks suggest an answer. Regional divisions could be made by appropriate groupings of the various States, each region to have its forest week under a schedule prepared to separate the various weeks by several months. The State Foresters in each region, assisted by the Forest Service, could serve as committees to carry out the idea.

By so supplementing American Forest Week, the public would be reminded at designated intervals of the national aspects of conservation and at the same time be advised on fire and other conservation problems from the more localized standpoint.

A regional forest week, supported by simultaneous proclamations by the various Governors and the other accompanying publicity, would be of great force in the respective regions. Further, under the present day means of communication, the activities in any one region would not be confined to that region. They would filter into the other regions, with the net result that during the course of any year there would be constantly recurring reminders for the public.

If such a plan were inaugurated, it would perhaps be advisable to curtail American Forest Week to American Forest day, with similar alignments for the respective regions.

American Forest Week, as now conducted, is decidedly worth while. If, however, it were supplemented by the regional forest week, it would be very much more effective.

SUPERVISION OF DAMS BY FOREST SERVICE

Following the St. Francis dam disaster this spring there has occurred widespread public apprehension concerning the safety of other dams, and discussion of the adequacy of public supervision. The dam was located on land of the United States in the Angeles National Forest, and, with the strict regulation of activities in the National Forests in mind, question has been raised in some quarters as to the reason this particular structure failed to receive some government supervision.

The St. Francis dam was constructed under an Interior Department easement issued pursuant to the Act of February 1, 1905, with the customary stipulation for the protection of National Forest interests. In cases of this kind the law imposes no responsibility upon the Federal departments for checking the suitability of the design and foundations, and, conformable with past practice, no such responsibility was assumed and no engineering inspection called for. A similar situation obtains in connection with hydraulic works authorized under the Acts of March 3, 1891, and February 15, 1901.

With the Federal Water Power Act of June 10, 1920, the matter is entirely different. Here the law clearly imposes authority and responsibility on the Federal Power Commission to carefully analyze the designs, inspect the construction, and supervise the operation, to the end that public safety be adequately safeguarded. Most of the large dams constructed in the National Forests in recent years have been under this form of authorization, and, consequently, they have been thoroughly checked.

The unparalleled expansion of the hydroelectric facilities of California during the past five years has led to the construction of 22 dams of major size which have been closely supervised by the engineering staff of the Forest Service at San Francisco. A number of these were structures of exceptional magnitude, and practically all types of design are represented. The Florence Lake and Shaver Lake dams, constructed by the Southern California Edison Company to control the water supply for the vast Big Creek power project on the Sierra Forest, are outstanding examples of their type. The Florence Lake dam is a multiple arch structure with crest length of 3100 feet and maximum height of 150 feet, and therefore classifies as one of the largest dams of this type in the country. Another notable structure is the Exchequer dam on Merced River. This is of the concrete gravity type and required 400,000 cubic yards of concrete. The height is 325 feet above streambed. The Bullards Bar dam on the Tahoe National Forest is representative of the concrete arch type. It is 175 feet high and is noted as the highest free overfall dam in the State.

The hydraulic fill type of construction is well typified in the Almanor dam on the Plumas Forest, finished in 1927. It required over 1-1/4 million cubic yards of material, and forms a reservoir with a capacity of 1,300,000 acre-feet. The rock fill type of construction is enjoying increasing popularity and a number of such dams have been built lately. The Bowman and Fordyce dams on the Tahoe Forest, and the Bucks dam on the Plumas, comprise the more important. Each of these required upwards of a quarter of a million cubic yards of rock.

Five dams are in course of construction at present under Federal Power Commission license. The two largest are on the Mokelumne River, where in the upper basin the Pacific Gas and Electric Company is beginning the Salt Springs dam, which is a structure of the rock fill type, 300 feet in height and requiring 2-1/2 million cubic yards of material. On the lower river, the East Bay Municipal Utility District is building the great Lancha Plana dam of the concrete gravity design, 350 feet high. Both of these structures will be the largest of their class in the country.

State jurisdiction at the present time extends in California only to the dams built by public utility companies and irrigation districts. Means are now being sought to extend this jurisdiction, and particularly to cover the structures built by cities and municipal districts. The legal situation is uncertain, however, and further legislation is needed to make such a plan effective. In order to partially correct the situation immediately, provision is being made in connection with certain important new structures proposed under the Act of 1905 to have the Forest Service engineering staff take over supervision to the same extent as with dams built under power license. Affirmative statutory basis for such action is somewhat indefinite, but with the assent of the applicant there is no question of jurisdiction. It is possible that this policy may be broadened to cover all dams of every description constructed on the National Forests. -F.E.B., D.5 News Letter.

PRESIDENT COOLIDGE CALLS FOR ADDITIONAL DATA ON FORESTS IN RELATION TO FLOOD CONTROL

My dear Mr. Secretary:

The President directs me to call your attention to the last provision of Section 10 of the Act "For the control of floods on the Mississippi River and its tributaries, and for other purposes", approved May 15, 1928, and to request that you ascertain and report to him the extent to and manner in which the floods in the Mississippi Valley may be controlled by proper forestry practice.

The provision referred to is as follows:

"That the President shall proceed to ascertain through the Secretary of Agriculture and such other agencies as he may deem proper, the extent to and manner in which the floods in the Mississippi Valley may be controlled by proper forestry practice."

Sincerely yours,
(Signed) EVERETT SANDERS
Secretary to the President.

Hon. William M. Jardine,
Secretary of Agriculture.

The Secretary of Agriculture in reply to this letter stated that he would collect additional information and would furnish this to the President as soon as the material could be gathered together. Mr. Sherman plans to publish the original reports upon which his earlier report to the House Flood

Control Committee was based. In addition, considerable information will also be brought together which will bring up to date in many respects the data given in Zon's earlier publication on "Forests and Water in the Light of Scientific Investigation." It is planned that all the additional data will be available by the time Congress convenes next December. Requests have already gone out to the field for revision of the early text and for additional data to be incorporated in these reports.

WHAT AND WHY IS NEWS?

By C. E. Randall, Washington

Romance and Sentimentality: There is a romantic streak in nearly all of us. Just as the stories, novels, movies, and plays usually have to have the love element to make a popular appeal, so romances in real life are unfailing sources of interest to newspaper readers. Every day we see stories in the daily prints of how some rich heiress elopes with the plumber, some shy little flower girl is wooed and won by a millionaire button manufacturer, or some octogenarian couple celebrates a wedding anniversary after 50 years of alleged marital bliss. Divorces, scandal, and breaches of the code governing the relation of the sexes, as examples of blighted romance, have similar interest.

While our forestry work may have a romantic appeal to some of us, we would probably have some difficulty in imparting this appeal to the lay public. Our field in this type of news is somewhat limited. But many a Forest undoubtedly has a rich background of romantic legend - folklore, or Indian mythology. It might be worth while to dig this up for conversion into feature stories. In a story describing the spot where the lovely Indian princess saved a brave Chief from burning at the stake, we can suggest what a tragedy it would be to have this beautiful, romantic spot converted to blackened waste by the flames caused by some visitor's carelessness with his Fatimas.

The value of sentimental appeal should not be overlooked. What backing we have in our forest work from the public at large is prompted more by the sentimental idea that it would be a shame not to have our beautiful forests, than by any definite consideration of the economic aspects of the problem. The idea of how a poor little tree must suffer when its tender leaves are scorched by the flames would appeal to thousands who would not be moved in the slightest by knowledge of the fact that those flames destroyed so many thousand board feet of timber.

Sentimentality is a great moving force. It is declared that the greatest single factor which led to the abolition of slavery in this country was the sentimental novel, "Uncle Tom's Cabin." Scholarly discussions of the harmful influences of alcoholic drink, physically, sociologically, and economically, went on for years, but probably the story of "Ten Nights in a Bar Room" was what really put prohibition over. If someone should write a sentimental best-seller depicting the suffering and hardships caused by the deprivation of beer, popular sentiment would tend to swing in the other direction.

It is a difficult matter for foresters, saturated with the scientific or economic aspects of their jobs, to recognize the sentimental appeal in them. The wives of forest workers and the women of the Service can help in this regard, - if there is any sentimental appeal in a particular forestry activity, they can be counted on to spot it.

DEDICATED TO PLUS-FOUR KNOCKERS

"Don't forget George Washington wore blue velvet pants and silk stockings - and nobody ever accused him of being a cake eater. The Three Musketeers wore frill lace collars and ostrich feathers in their hats - and they were as tough as an auctioneer's tongue. Just because you have a burlap mind is no reason you should go around knocking broadcloth. Don't be sore at Santa Claus because he wears red knickers." - Andy Gump.

A LIVE LOGGING SUPERINTENDENT

By John McLaren, D-1

Early in May it was my privilege to accompany Assistant Supervisor Carter and Ranger Armstrong of the Mount Hood Forest to the La Dee Logging operations. We had scarcely alighted at camp from the train of empties when we met Logging Superintendent Clarence Vanderjack. In a brisk business-like manner he immediately started in to talk "Fire".

"Looks to me as though we are going to have an early fire season. Just having taken over the job recently I fell heir to several logged off areas where the slash has not been disposed of. I'm afraid of them, but now it is absolutely unsafe to try to burn them. Spark arresters have been overhauled and placed on all the donkeys and hose is strung out ready for immediate use. Watchmen have been put on and a man designated to act as camp warden. The sale of cigarettes has been stopped and smoking discontinued in the woods. Wish you fellows would look around and give me suggestions and advice. I'm here to get out pay logs -- I cannot afford to have fires in this region, for fighting fire and putting pay logs on the landing don't go together."

And so the conversation continued. What a contrast to the days of yore when instead of taking precautions voluntarily and in advance of the specified date, it usually was found necessary to bring pressure to bear to secure even nominal compliance with well established fire prevention principles.

I judge that the attitude of this man is the result of good PR effort on the part of Forest officers and how satisfying it must be to those who have had the opportunity to help bring him to this point of view.

FEDERAL HATCHERY FOR NEW MEXICO

After several years of effort, the State has finally succeeded in getting a bill passed by congress providing for the establishment of a federal warm water fish hatchery in New Mexico. The measure provides $50,000 for the construction of the plant, and the money to be available during the coming fiscal year, which begins July 1. The State has approximately 100,000 acres of lakes and 500 miles of streams adapted to occupation by warm water fishes, such as bass, crapple, perch and sunfish, according to data compiled by the state game and fish department, most of which is very inadequately stocked at present. District 3.

SHE'S WILD

There was a day when District 2 was real wild; the day when Fred Light was defying the United States, and when the chief topic of District office conversation was the relative merit of different types of pack tree, center fire versus rim fire saddles, dutch-ovens versus reflectors. But later a calmer mood prevailed, the District Office staff assumed new dignities of bearing and manner, developed a fine discrimination in ordering its meals from menus instead of dishing them out of a frying pan, turned its thought to the higher problems of silviculture and sociology, until there was justifiable grounds for the fear that its old time wildness was wholly traditional.

But D-2 has just submitted documentary evidence to the contrary, in the form of a complete line-up of its wilderness areas. Parenthetically, D-2 has the habit of shooting these jobs in so fast that the Branch of Lands is thinking of formulating an advanced program of work so that D-2, having cleaned up all the present jobs, will have something with which to occupy its time. But to return to the wilderness. The D-2 report shows the existence of 42 wilderness areas; 13 of class 1, high in quality but small in area, 1 of class 2, and 28 of class 3, which latter are the large sized manifestations of unspoiled nature where real he-men have ample room and opportunity for the exercise of all their hardihood and endurance and skill in woodcraft. The 28 areas contain over two and one-half million acres, many steep slopes and hair-raising trails, and some tough portages which are guaranteed to increase the weight of an 18 foot canoe from 100 pounds on the near end to a ton and a half on the far end. So all is not lost in D-2 after all. The outward evidences of effeteness are merely a thin veneer assumed in deference to modern standards. D-2 can be, and probably is, as wild as any of them when the occasion warrants. - L. F. K.

YE EDITOR DISCOVERS

Lantern slide sets accompanied by lecture outlines were loaned by the Office of Educational Cooperation to educators in 27 States, the District of Columbia, and Hawaii during the last fiscal year. Reports received show that 83,873 persons saw the slides. As a number of the sets were returned without reports or with reports of only the number of times the sets were shown, the total of all persons who saw the slides was probably above the 100,000 mark.

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Reports on fire conditions in the Districts are as follows:

District 2: (July 31) "Expenses eleven hundred thirty eight dollars. Rather dry generally throughout District though relieved in spots by rains."

District 4: (July 31) "Expenditures one thousand dollars emergency guards. None high. Fire hazard South Idaho."

District 6: (August 1) "Fire expense thirty two thousand. West side conditions normal. Fog and clouds on coast now clearing. Extremely dry east and south. Many lightning fires eastern Oregon. All controlled while small except Umatilla. Situation there improved. Fires expected under control tonight. Twenty thousand acres Wall Creek drainage scattered timber. Spent nine thousand. Daily cost fifteen hundred."

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Dr. A. J. Stamm, colloid chemist on the staff of the Forest Products Laboratory, left July 15 on a leave of absence to avail himself of an International Education Board Fellowship which will take him to Upsala, Sweden, to work under the direction of Prof. The Svedburg at the University of Upsala. Prof. Svedburg is an internationally known expert on colloids and a one time guest professor at the University of Wisconsin.

Doctor Stamm's researches at Upsala will be in a field not far removed from his studies of wood as a colloid at the Forest Products Laboratory. With the aid of the ultracentrifuge, a piece of equipment developed by Prof. Svedburg and the only one of its kind in the world, Doctor Stamm will determine some of the physical differences between cotton cellulose and the cellulose of wood.

AURORA BOREALIS PUTS D-3 ON THE QUI VIVE

That the populace is alert to the danger of forest fires, knows what to do when they see one, and also their extreme willingness to cooperate in any way and to assist in fighting fires was very forcibly brought to the attention of Forest officers in Albuquerque and throughout the State when the recent northern lights were visible in forested sections. It was on Saturday night, July 7, when the phones in Albuquerque, Alamogordo, Silver City and other Forest headquarters started to get busy. Supervisors, Assistant Supervisors, Rangers, and even District Office men were the recipients of calls from apprehensive citizens, and the general report was that a terrific forest fire was raging in the nearby mountains or forest, and that they stood ready to answer any summons for help. Although the fright was only temporary it kept a good many Forest officers puzzled until the mystery of the bright red reflection in the sky was solved, for the residents of Albuquerque thought the fire must be in the Sandias and the residents of Sandia assumed it must be raging toward Santa Fe- and on the Lincoln, the reports from the Rangers did not indicate any convergence to a fixed point on the Forest but all said the big fire was northeast and apparently must be a whopper to give such a magnificent reflection.. "The lights", as described in the Albuquerque Tribune, "swept westward with brighter streaks on the pale and almost colorless background. At the western end of the aurora borealis the streaks assumed a pink color. There was no noticeable flickering, according to observers. The lights were visible approximately one third of the way towards the sky's zenith and were observed as far south as Las Cruces where they were visible for the first time in ten years." Our PR work has evidently not been entirely for naught. - D. 3 Bulletin.

NEW NATIONAL FOREST CREATED IN MICHIGAN

On July 30, President Coolidge signed a proclamation creating the Huron National Forest in Crawford, Oscoda, Iosco, and Alcona Counties in the State of Michigan, and transferring to this Forest a portion of the lands formerly within the Michigan National Forest.

The Huron National Forest contains a gross area of approximately 500,000 acres, of which about 200,000 acres is now owned by the United States and the remainder is either in private ownership or is owned by the State of Michigan. The National Forest Reservation Commission has authorized the acquisition of the privately owned lands and it is expected, therefore, that these will ultimately be purchased by the Federal Government.

This National Forest lies in a region which at one time was heavily forested but has now been largely denuded through the commercial timber having been removed and the lands burned over repeatedly. Planting is being resorted to by the Forest Service in order to restore these lands to their former productive condition.

HE REMEMBERS

By L. L. Hougland, Colville

Several years ago, Richard Barrett, son of T. F. Barrett who for years was the Clerk on the Colville, went with some of the Forest officers on a camping trip on the Kettle Falls range. This particular locality had been burned over many years before.

Dick is now going to school in Santa Clara, California, but the memory of the burned forest still lingers on and gave Dick the inspiration for the following poem which appeared in his High School paper.

THE SKELETON FOREST

Sordid, black, ugly, dead,
   Here once green timber grew,
Up to the sky it tossed its head,
   While nature sang the joy she knew.

Here once a mountain stream came by
   And slid through shady nooks,
It held the blue of summer skies,
   This happy gurgling brook.

Then the fire devils dancing, came
   To leap in fiendish glee,
As whisked upon the wings of wind,
   They jumped from tree to tree.

A dense gray cloud of drifting smoke,
   Was settled on the land.
It was the wraith of forest life,
   Released by fire's red hand.

No more the lark with happy trill,
   Will rise to greet the dawn.
This blackened empty waste is still;
   All laughing life is gone.

Was it the careless hand of man
   That caused this to be lost.
That took a virgin timber stand
   And made a holocaust?

Or did the anger of the gods
   Hurl down the burning brand
To scorch and sear the face of earth;
   Burnt sacrifice demand?

In the administration of the forest reserves it must be clearly borne in mind that all land is to be devoted to its most productive use for the permanent good of the whole people * * * Where conflicting interests must be reconciled, the question will always be decided from the standpoint of the greatest good of the greatest number in the long run.

James Wilson, Secretary of Agriculture
February 1, 1905

FOREST SERVICE U S DEPARTMENT OF AGRICULTURE

Service Bulletin

Contents Confidential

VOL. XII No. 34 WASHINGTON, D. C. AUGUST 20, 1928

TRANSPLANTED

By Arnold Arneson, Rainier

There always is a certain amount of chance taken in moving a tree or shrub from a high location to a low one or from a wet climate to a dry one, and I guess that applies to humans as well. I begin to realize it after just having been transferred from the west wet-side of the Rainier to the east dry-side. I don't know how it is going to work in my case, but I think that after I get sun-dried and the moss off my back I will be as full of pep as a new Ford. After being water-logged for about eight years and then being moved out of the wet and set up in a dry climate one ought to respond like a recharged battery.

The thought of leaving the White River Ranger District and taking over the Naches District was anything but pleasant at first. I have often thought of an article by one of the Portland men written a few years ago, suggesting that a Ranger be moved every five years or so, and have wondered how such a foolish idea could take root in anyone's head, but from actual experience I really believe a change once in a while will do us more good than harm. Here's one thing I have learned already. I find it very easy to neglect to put all the facts of a project down in writing. Because one understands the job so thoroughly himself he doesn't stop to think that something may change his plans and someone else may have to take the job over who does not know anything of his plans. The only sure way to correct this fault is to take over a new district and try to start where the other fellow left off; without all details down in writing one is due for a headache. The one outstanding example of poor notes that I found on taking up the work here was the directions for location of trail signs; in fact, I would have been stuck without the aid of the Supervisor and Ranger Croxford. The note on one sign read, "Nail on tree one-half mile up hill from trail half way between the sign 67 and 68." It may have been clear enough for the one who asked for the sign, but the instructions may as well have been written in Chinese for all the good they did me. Another read, "Nail at ford on South Fork." No name of creek; it might as well have read "somewhere in D-6" for all the good it would have done a stranger nailing up the sign. What I am trying to bring out is, - I know I have not been going into enough detail and making reports clear enough so a new man can take over the work where I left off and go ahead with it without help from some one familiar with the plans. I know I haven't left the plans of proposed work in the White River District clear enough for my successor to go ahead without asking a lot of questions, but fortunately, I left some good men who understand the work and plans. My objective is that when I leave this district the man who takes it over will find written plans of all work and problems in the district plain enough so that as soon as he learns the country he can go ahead with the work without any hesitation. It's like the old saying "a new broom sweeps clean". Guess that is what the Portland man was getting at when he suggested moving a Ranger every five years or so to keep the broom new.

EXPERTS

By L. F. Hawley, Forest Products Laboratory

I think that Mr. Keplinger's remarks on experts in the Service Bulletin for May 7 should not be allowed to pass without comment, and, having waited without result for an expert to reply, I will take up the argument in their behalf.

The main thesis of Keplinger's argument is that an expert is no expert if he knows things that he can't explain. In other words, he limits an expert's value to the intelligence of his auditor. The absurdity of this notion is brought out by the corollary that the greatest expert would become a fake the moment he started talking with a moron. It is, of course, true that from the immediate practical standpoint the knowledge of an expert which cannot be transmitted to an executive is useless knowledge, but it is difficult to understand why the blame should be placed on the expert. He does not make his knowledge -- he finds his facts and develops his theories without any control over the complexity of either. If they happen to be too complex for his associates to understand, he is in hard luck, but a really great expert could not change the situation. The difficulty of the expert in making himself understood is frequently a serious problem but we do not see that criticizing the expert is going to do any good -- the only solution is to raise the intelligence of the expert's associates.

A clue to Keplinger's attitude on the subject is obtained from his statement, "True principles or real scientific facts are always more simple than the wrong assumptions that preceded them." This is certainly not true, even in the case of the example given in confirmation (the old flat earth compared with the modern spherical one), but it corresponds exactly with the false assumption on which the whole argument is based, that nothing is true or valuable unless it is simple enough so that "I" can understand it.

There are, of course, fakes and charlatans among experts who endeavor to cover up their lack of knowledge by using words no one understands, but the most dangerous fake expert is he who is skillful enough to simplify his presentation at the expense of the truth so that it is easy to understand and makes a good impression, but who later is found to lack both honesty and expertness.

THE "PUBLIC RELATIONS MAN"

You can usually test the character of a business house by its attitude toward complaints.

If it really means well by the public it deals fully, frankly, and courteously with any complaints made to it. If it only pays lip service to the higher ideals of commerce it will be obstructive, reticent, and barely civil when asked to put right what the customer thinks it has done wrong.

Most modern businesses of any size and standing have some specific organization for dealing with complaints. No business house, however perfect its intentions and its management, can expect to hit the bull's eye in every transaction, and there has to be some quick and effective method of adjustment.

Sometimes there is a director whose special function it is. Sometimes there is a "complaints department". But we like best a name we heard the other day from a representative of one of the greatest of United States business concerns. He said that he attributed much of the success of the firm to its "public relations man."

It was the function of this man, he said, to deal with every complaint that was made about the company's service - and as it was a public utility company there was more than the ordinary opportunity for criticism. No matter how large or how small the complaint, he had personally to see that the matter was put right and complaint turned to satisfaction.

But we like the name because it indicates a more positive and pleasant function than the answering of complaints. It was for this man to smooth and brighten every relation with the public, to do all in his power to establish real friendship and confidence between them. Dealing with complaints was but one aspect of his duty. - From the London Times, April 14, 1928.

THE VILLAINS STILL PURSUE HER

By H. T. Gisborne, Northern Rocky Mt. For. Expt. Sta.

Did you see that little "filler" which the villainous editor inserted on page 7 of the June 11 Service Bulletin slandering the reputation of our Lady Nicotine? If not, here it is:

> "Burned or burning cigarettes are discarded at the rate of 170,000 a minute - 90 billion a year - in the United States, according to the best figures available. Ignition tests have shown that burning cigarette butts will start fires in 90 per cent of the cases when there is a wind velocity of three to four miles an hour."

Taken at face value that looks rather bad for the kind you'd walk a mile to tell in the dark that they satisfy if toasted, doesn't it? Ninety per cent of 90 billion is 8,100,000,000 fires from cigarette butts! But, does that mean that nine snipes out of ten will start fires if thrown on cement pavements? Probably not. If the glowing snipes land in moist duff, or green grass, or piles of large branchwood, are nine out of ten dangerous? Probably not. What material must they work on to be so devastating? The propaganda note - it certainly can't be reliable news - given above fails to state that rather important controlling condition.

Actually the 90 per cent ignitions were obtained when "a wire mesh container was filled with grass, a lighted cigarette imbedded therein," and a fan turned on this cage blowing a steady wind of two or more miles an hour for from two to ten minutes before ignition was obtained. And "the grass was heated in a laboratory furnace or on the steam radiator each morning and exposed thereafter to the atmosphere in the room."

The quotations are from the report on this work by the Bureau of Standards published in the "Quarterly of the National Fire Protection Association" Vol. 21, No. 3., January, 1928.

At least five features of these tests are worth special remark. The stubs used were 1¼ inches long, or half the full length; shorter lengths often burn out before igniting adjacent material. The fine grass used was always air dry or drier. The glowing stub was imbedded within the grass; it did not lie on top as cast-offs usually do. The wind velocity, admittedly of paramount importance, was continuous, and so directed that all the heat from the cigarette was effective in raising the dry grass to the ignition temperature. And the charted data show only 42 per cent ignition with a two-mile wind, 52 per cent with a 4½-mile wind, 58 per cent with a 6½-mile wind, and 86 per cent with a 3½ -mile wind. The "90 per cent ignition" quoted by the alarmist who wrote the propaganda note appears to border on selection of data to prove a theory.

Let the villains continue their pursuit. Millions are smokong billions, and "millions can't be wrong.

LUMBERJACK MODES

By Sagebrush Sam

Horton says that in the great Pacific Northwest they have emulated the uncouth lumberjack and the cow-puncher in their manner of dress. Thus, with his "snicker"-snee he slays the spectre of "knickers" as a part of the uniform.

But wait. Isn't this "he-man" stuff a bit strange? I can recall the time when an old-time ranger wouldn't have been caught dead encased in "choke-bore pants," as riding breeches were then known in the hinterland. Now the hardest-boiled mule-skinner can wear them with the savoir-faire, the non-chalance, the debonair grace of a diplomat strolling in the Camps Elysees in a stove-pipe hat and a spike-tailed coat.

And if we must emulate the lumberjack in his clothes, why not also in his conversation, his table manners, and his silviculture? In the long run, the uniform will be based on utility, appropriateness, and neatness - and by these standards, it isn't so certain that knickers will always be barred. I can even foresee the time when our oldest woodsman will gaze upon them as calmly as the city horse gazes on the automobile.

WHAT AND WHY IS NEWS?

By C. E. Randall, Washington

Mystery: Stories of mystery usually rank with romance or sentiment stories in reader interest. While all the world loves a lover, we will find occasionally an ultra-practical man whose sentiment is so buried under masses of business cares that for all practical purposes, he is an exception to the rule. Though he kisses his wife only from a sense of duty, and eschews tales of romance, he is still apt to fall for a good detective yarn.

Mystery fascinates everyone. The newspapers play it up, particularly in the crime news. We can get in on this to some extent in connection with our law enforcement work.

But popular interest in mysteries is not confined to detectives and crime. An unsolved problem in any field of endeavor contains an element of mystery. If we have a problem in forest administration that is puzzling enough to interest us, it will also be of interest to the public if it is converted to terms that the public will understand. Why wait for its solution to make it public? If we let the public in on our problems and worries, they will be more interested in our ultimate success. We know that, if kept posted from day to day and given a chance to speculate on developments, the public will follow a murder trial with as much absorption as the prosecuting attorney. Advance stories of a proposed transoceanic airplane flight will whet up almost as much interest as the flight itself. While we perhaps cannot expect to vie with the Lindberghs for honor position on page one, we can aim to hold a sympathetic following in any line of our forest activity, once we can get their initial interest. And emphasis of the mystery element, when there is one, in any of our problems, is one good way of arousing this first interest.

What are the possibilities of radio in fire control work? What is the outlook for timber production in this locality fifty years from now? What changes can be expected if this area is planted? Will tractors be practicable in fire line work on this forest? What will be the effect of this new road on recreational use? What is the best method of getting rid of poisonous plants? - The public would like to discuss and speculate on these problems as well as ourselves.

Then there are happenings from time to time of an inexplicable or mysterious nature. Perhaps we are not able to explain yet why electric storms cause fires at one stage and not at another, or why people like to shoot at our signs. There is a story in such problems, even if we do not know the answer. In our fire statistics, we list a large number of fires each year under the heading "Cause Unknown". Probably there is a chance for a mystery story in nearly every one of these fires.

Adventure: Tales of adventure and accounts of travel or exploration in little known regions are always of news interest. The human craving for adventurous experiences which, most of us are denied finds some satisfaction in following the adventures of others. The experiences and vicissitudes of our air patrol men, the hardships of our surveying crews in rough country, the narrow escapes of our Forest workers in the performance of their tasks - such things will make good adventure stories.

Nor does our Ranger have to shoot six Injuns before breakfast every morning to lead an adventurous life. What the case-hardened Forest worker might consider an ordinary occurrence in the daily round of work may have the appeal of adventure to the city reader. The felling of a patriarchal forest giant, for instance, has in it an element of adventure, and it also might be worked for sentimental appeal, with a few ideas injected about the need for growing more timber to take its place.

LUMBER FIRM TO CUT TREES ON CROP BASIS

Seeking to perpetuate the supply of timber, the Michigan-California Lumber Company, one of the largest operators in the pine region of California, has gone on a "crop basis" for all future operations, according to announcement by James Danaher, Jr., general manager of the firm.

"We wanted to place our property of about 73,000 acres on a sustained production basis," Danaher's announcement states. "We knew about how much virgin timber we had left. With the assistance of the research department of the Western Forestry and Conservation Association, the average rate of wood growth per acre per year was determined over a series of years. This proved to be about 400 board feet in the 16,000 acres of cut over land owned by the company. Of the 62,000 acres of virgin timber in the company reserve there is standing about 1,600,000,000 feet, or enough to last 40 to 53 years at a rate of 30,000,000 to 40,000,000 feet a year.

"On the basis of 400 feet growth per year per acre, the annual production of our entire holdings would be in excess of 30,000,000 feet."

Annual cuts hereafter will range from 30,000,000 to 40,000,000 the report states.- D. 5 Bulletin

AIRPLANES FOR TRANSPORTING FIREFIGHTERS

In a letter written to Forest Supervisors regarding forest air patrol activities in District 1, this season, District Forester Morrell says:

"Since the planes contracted for this year will be better adapted to carrying loads than in the past, it is hoped to try out some experiments in the emergency transportation of men and supplies for fire control. For example, it will be possible to transport three or four men for fire fighting from Spokane to any landing field in the western part of the District in about two hours' or less flying time. In a pinch, specially selected emergency guards or fire fighters may be sent out in this way. Likewise, guards or other men available for fire control on one part of the Forest may be quickly moved to another part of the Forest if landing fields are advantageously located. A pump and hose or other needed equipment can be sent out from Spokane to any landing field on very short notice. Such articles as fire hose, beds, cured meats, grubhoes, and some other articles can be successfully sent down from a plane without landing, in places where the timber is not too dense. Definite instructions as to where these things are to be dropped should be given with each order and some one should be on guard to locate and recover the package when it falls.

"Supervisors are urged to take full advantage of the planes in fire emergencies, particularly after lightning storms. By consulting unseen-area maps, it should be easily possible to direct the planes to areas where they can probably do the most good, bearing in mind that preventing the escape of a single fire may easily save the full cost of the air patrol for the entire season.

OUTDOOR GOOD MANNERS

How did you like the cartoon which was reproduced in the July 30 issue of the Service Bulletin? It was drawn by the well-known cartoonist J. N. Darling ("Ding") and presented by him to Mrs. Francis E. Whitley, Chairman of Forestry, General Federation of Women's Clubs, for use in connection with a campaign for "Outdoor Good Manners" launched by Mrs. Whitley. This campaign, started several years ago, has been sponsored by women's clubs all over the United States, by various means, such as poster and essay contests in schools, distribution of the "Ding" cartoon, and the securing by clubs of publicity in local papers.

SURPLUS DEER PROBLEM ON PISGAH GAME PRESERVE

The surplus deer on the Pisgah National Game Preserve now present a problem which promises to become as serious as that encountered on the Kaibab National Forest. The original idea for the protection of deer on the Pisgah Forest was to establish a game preserve from which the deer would flow to the surrounding territory in western North Carolina. This scheme has been completely nullified by the fact that 42 private game preserves have been established, encircling the Pisgah National Game Preserve. Last year, according to the Rangers, there were 700 deer killed on these preserves. Nevertheless, the number of deer is constantly increasing, and it has now reached a point where the surplus must be utilized in some manner before it becomes unmanageable. With this in view, District 7 will shortly present to the Forester's office a plan of management which will provide, in the first place, for the transplanting of some of the deer from the Pisgah to other localities.

GUGGENHEIM MEMORIAL FOUNDATION OFFERS FELLOWSHIPS

In order to improve the quality of education and the practice of the arts and professions in the United States, to foster research, and to provide for the cause of better international understanding, the John Simon Guggenheim Memorial Foundation, established by former United States Senator and Mrs. Simon Guggenheim as a memorial to a son who died April 26, 1922, offers a limited number of Fellowships, tenable abroad under the freest possible conditions, for research in any field of knowledge and for creative work in any of the fine arts, including music. Appointments to Fellowships will be made by a Committee of Selection, subject to ratification by the Board of Trustees.

Applications for Fellowships must be made in writing, on or before November 15, 1928, by the candidates themselves, in the form prescribed, addressed to Henry Allen Moe, Secretary, John Simon Guggenheim Memorial Foundation, 551 Fifth Avenue, New York City. Final selections of Fellows for 1929-30 will be made early in March 1929. Application forms will be mailed by the Secretary upon request.

SOME DATIL HISTORY

In a note to Supervisor Kirby, Fred Winn relates the following: "Now you will know what comes of having a lot of Greek and Latin wished on an unwilling kid in his school days. That 'More ancient history' tale in your recent Datil Bulletin certainly brought back to my mind very vividly the occurrences of twenty years ago this month. The 'Morituri te salutamus' inscription was carved by me on one of the rough boards which made a part of the old Monica Ranger Station. I thought the last vestige of it had long since disappeared. There never was a more lonesome place in those days than at Monica. All the lumber and freighting was via the old Point of Rocks road. An occasional V + T cowpuncher or old Jack Best of the A L horse ranch was about the only company and the long summer evenings were especially dreary. The sawmills of those days were operating under protest, as it were, since they had cut where and when they pleased until the San Mateo 'Forest Reserve' was placed under administration in 1907 and with one mill in particular there was continual war. One evening, in July 1908, a V + cowpuncher came along and stopped for supper. He had just come in from one of the mills and told me there had been a lot of war talk and that the next time I showed up would be the last time for me. After he had gone his way, I carved the inscription on the wall of the shack. Forget why the plural was used instead of the singular, but it may have been intended to include John Kerr (who knows of the circumstances) or Forest Assistant Balthis or Inspector Waha who had made a recent inspection of my sale administration. The next day at the mill nothing happened. I should not wonder if there were not some more Latin or Greek inscriptions on the old boards which made up the shack known as the Monica Station." - D. 3 Bulletin.

BETTER SEED

To many in forestry who are all too inclined to take things as they are, the extension slogan of "Better Seed" is without meaning. Upon looking into the matter superficially, I find that some 224,000 demonstrations, roughly one-fifth of all demonstrations carried on by the State extension services in 1924, were for the purpose of teaching farmers the value of better seed. How important the results are can be briefly quoted: Michigan estimates the planting of 600,000 acres of improved cereal seed annually as resulting in an increased income of $2,000,000 to the farmers, while the substitution of better alfalfa seeds has been worth $8,000,000, or $50 increase per farm. Nebraska estimates 5,650,000 acres of cereals planted to improved seed as worth $7,825,000 per farm annually. In Ohio, the use of better seeds brings in $13,000,000 more than with the average or poor seed, or $57 per farm. In Iowa, 2,667,000 acres of improved oats gave an increase over the average of 11,000,000 bushels.

Yet American foresters are planting seed of scrambled and indeterminate parentage in regions remote from the source where collected, are planting seed of wholly unknown origin, and are preparing to plant foreign trees on a commercial scale in regions where the species has not been demonstrated to be a success.

What will the harvest be? - E. N. M.

YE EDITOR DISCOVERS

Mr. Hoover on his recent trip West visited Mt. Shasta and made a study of forest conditions, circling around half of its 60 mile base. He arose with the dawn, drove ten miles across the mountains to McCloud, and breakfasted at a lumber camp. Then he went to Mt. Shasta's base, studied forest conditions, and then to Medicine Lake. He lunched with his party on the bank of the lake and a little later continued his tour of inspection of forest conditions.

On the way back Mr. Hoover told his companions there was dire necessity of saving the forests, of greater reforestation and more conservation.

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Fire conditions in the Districts are as follows:

District 1 (Aug. 3): "Fire expenses fifteen thousand dollars. One hundred seventy lightning fires during period out of two hundred two total. Severe weather conditions up to August one but cooler past two days. Several Class C fires burning but quiet and control expected tonight. Weather apparently changing to warmer.

District 3 (Aug. 2): "Expense twelve thousand seven hundred. Emergency patrolmen twenty-four. Local showers. Little danger."

District 5 (Aug. 3): "Expenditures seventy thousand. Severe electrical storms from Eldorada north caused around one hundred fires. Bad fires on Plumas, Tahoe, and Santa Barbara. All controlled but Jamesburg fire on Monterey District. Latter burned about nine thousand acres woodland largely outside Forest. Two hundred twenty-five men on our side of this. Incendiary outbreak Orleans District Klamath. Seven fires all controlled. Weather conditions bad.

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The following letter was received in the Office of Information on July 26:

RAWSON-MACMILLAN FIELD MUSEUM EXPEDITION
1927-28

Rawson-Macmillan Field Station
Anatalak Bay, Nain, Labrador
April 16, 1928.

U. S. Department of Agriculture,
Office of Information,
Washington, D. C.

Gentlemen:

The enclosed card (notice of publication of "Forests and Water") has just been received and I hope may be returned to you before the stock of the publication named thereon is entirely exhausted. The subject of the relation of forests to streamflow is of direct interest to me in my study of the fish in those streams.

It may interest whoever reads this to note that the card was postmarked November 17 and reached here a few days ago, in about the usual time for winter mail. If this gets to Battle Harbor by dog team it will be taken on the first spring boat, sometime in June. If it does not go beyond Hopedale or Makovik the first boat will be in July. At Nain the first boat may not be until August. The ice is about four feet thick on the bay here (sea water.)

Very truly yours,
(Signed) ALFRED C. WEED.

THOSE GRAZING FEES

By William S. Brown, Modoc.

N. J. Billings, who used to be a next door official neighbor of ours has our deepest and sincerest sympathy as well as our perfect understanding of the problem voiced by his plaint in the July 16 issue of the Service Bulletin.

We tried in vain to explain the problem of increased grazing fees to our local stockmen. After listening courteously for a time, a permittee would look at us curiously, as if he doubted our mental condition (and justly so), then edge his way nearer a safe exit from which point of vantage he would shout "I only wanted to know the rate per head for my stock this season."

Here is how we solved our problems, apparently to the satisfaction of all concerned. We worked out our schedule for each season 1928 to 1931 inclusive by seasons and classes of stock, working the fee to the nearest quarter, eighth or sixteenth of a cent. We furnished every member of the force with copies of the schedule as well as sending it out to the local newspapers. When a man asked us his rate, we then glibly replied, "60¾¢ per head for your beef cattle, 94½¢ per head for your long season stuff, 1.09 5/16¢ for your horses and 7 13/16¢ per head for your winter sheep."

We will concede to Billings, however, that our system saved our reputation for common sense in the community.

In the administration of the forest reserves it must be clearly borne in mind that all land is to be devoted to its most productive use for the permanent good of the whole people... Where conflicting interests must be reconciled, the question will always be decided from the standpoint of the greatest good of the greatest number in the long run.

James Wilson, Secretary of Agriculture

February 1, 1905

FOREST SERVICE U S DEPARTMENT OF AGRICULTURE

Service Bulletin

Contents Confidential

VOL. XII, No. 35 WASHINGTON, D. C. AUGUST 27, 1928.

MR. BARNES IS CONGRATULATED.

August 3, 1928.

My dear Mr. Barnes:

I am chagrined at being so late in sending you a personal word in connection with your retirement from the Forest Service. But, even if belated, I do want to give you my own appreciation and congratulations on the many fruitful years which you devoted to the Service.

You were one of the real leaders in the inauguration and development of the National Forests, not only in the new order of range management but also in creating and carrying through the whole conception of conservation which was exemplified in the National Forests movement. Your personal standing and influence were of tremendous value in making clear the conceptions behind the National Forests to the people of the West and in gaining support for them. And your wide experience and knowledge in the live stock industry have been of inestimable value to the Service in translating the general conceptions of range conservation into a practicable working system.

I shall always remember with deep gratification my years of association with you and the unfailing loyalty and support which you gave me when I was at the head of the Forest Service.

I am mighty glad to hear that you are going to continue your public service with the National Board on Geographic Names because I am sure you will find great interest in it and you are exceptionally qualified to make it successful.

I am immersed in the effort to master the details of my new job, which I find both strenuous and interesting. I am never going to forget, however, my days and associates in the Forest Service, and I am counting that whenever you are in this neck of the woods you will look us up. The family has just arrived from the East and is now busily engaged in getting acquainted with Seattle.

With very hearty wishes for Mrs. Barnes and yourself, I am,

Sincerely yours,

W. B. Greeley,
Secretary-Manager.

West Coast Lumbermen's Association.

MORE CONCERNING EDUCATION IN FOREST PROTECTION

By G. H. Lentz, Southern For. Exp. Sta.

In the July 9th issue of the Service Bulletin, Mr. P. A. Thompson of the Colville makes some rather general statements concerning the teaching of Forest Protection in our forest schools. He quotes C. S. Cowan, who in his article, "Is Forest Protection Taught in our Forest Schools?", recommends to the Forest Schools that they teach the general fundamentals of forest protection.

I believe Mr. Cowan has not kept in close touch with the forest schools and their curricula. At Syracuse, with which school I am on familiar terms, a course in Fire Prevention is given to seniors. The instruction includes also the other phases of protection, such as protection from insect pests, from diseases, etc. At Michigan a similar course is given, and other schools also give the fundamentals of forest protection.

It is true that you cannot train a fire fighter in a classroom, even though you can teach him the theory and describe the methods. When the sophomores of the Syracuse College of Forestry are at their camp, they are subject to call for fire fighting. Fire fighting equipment, such as gasoline pumps and the like, are demonstrated to them and they are shown and told about the use of such instruments as the sling psychrometer, duff hygrometer, etc. used in checking up fire weather. A fire tower operated by the State is connected with the camp by a telephone line built and maintained by the students. Fires are not actually started in order to give the much needed experience, but no chance is passed up to get the men onto a fire.

Another statement made by Mr. Thompson is not applicable to all schools, for many of them make particular allowances so that students can get away by May 1st and need not return until October 1st. Juniors in good standing at Syracuse are thus enabled to put in five months on temporary jobs with the Service. Some men however are so situated that they cannot leave before the actual close of school. I agree that very little real experience can be gained by a student spending his whole summer as a fire lookout. I believe the Service can better train prospective Junior Foresters than by giving them such positions.

As far as making the summer work a means of helping students through college, this may prove satisfactory for western schools, but can hardly prove helpful to men attending eastern schools. The railroad fare and expense of getting to the job use up all and sometimes more than the student is paid for the summer's work. Every Forest School has a large percentage of men earning their way, and I personally know several who have had to turn down Forest Service jobs because they had to "save" some money during the summer.

Possibly the creation of more National Forests in the East will help solve this problem from the standpoint of traveling expenses, but the eastern forests will not prove successful training grounds for men destined for employment in the West.

If the schools are passing up an important phase of their forestry work, I feel certain that they would be open to concrete suggestions as to how they could remedy the situation. Personally I believe the situation is not so bad as Mr. Cowan and Mr. Thompson have led us to believe.

TELLING THE WORLD

By Geo. E. Griffith, D-6

There seems to be a growing desire on the part of business men to assist in forest protection education, if requested. A little consistent follow-up will often turn this desire into action. District 6 began this circularizing of business houses several years ago.

A letter was recently addressed to the membership of the Oregon Manufacturers' Association enclosing copy of the D-6 Smoker's Code and a page of suggested slogans.

To date sixteen firms have replied promising cooperation. The Pacific Coast Cone Company (one of the largest ice-cream cone manufacturers in the world!) state they will use the slogans on two million pieces of printed matter annually. This includes ice cream cone boxes, letterheads, and advertising leaflets. The slogans are especially effective on the cone boxes which are very popular with auto campers for use as running board carriers.

The Portland Box & Label Co. have just issued gummed labels bearing forest protection slogans in red, with attractive borders. They have used twelve different D-6 slogans in their series. These labels are offered to their clients at 50¢ per thousand and no doubt will be widely used.

Other cooperation includes slogans on stationery, smoker's codes as envelope stuffers, and special posters over employees' time-clocks.

A great many merchants and forest visitors will be reached through this cooperation. The slogans were especially written to appeal to the business man and merchant.

SOMEWHAT HIAWATHAN

By A Florida Ranger

I've listened to tales of the Service, of Rangers who live in the West,
They wrote me of choke bores and Stetsons and fur chaps in which they are drest.
So I bought me some hairy old "he" pants. I'd give them a try at the best.

Now the job that I hold calls for dipping, the gum in the forests of pine.
We gather it up and then still it, for rosin and gum turpentine.
The pine trees grow close to a lake shore, right down to the old water line.

Whenever it rains in these tropics the sky opens up and pours down,
And the lakes rise up quickly and cover the country for acres around.
When that hurricane hit us last August, the waters spread out with a bound.

I donned riding boots and my Stetson, and even found one rusty spur,
And my fuzzy old chaps then I put on. Good Lord but the heat of that fur.
It gets hot way down here in the Southland. I felt like a sick dying cur.

I set out to gather the crude gum, with my paddle and bucket of tin.
I looked at the wild raging billows but hitched up my chaps and plunged in.
The rig I had on wasn't made right for swimming, it couldn't have been.

I tripped as I entered the water when my riding spur caught in a root.
I sank under twice e'er they saved me and they said, "What a crazy old coot.
Why doesn't he chuck those old chappies and buy a nice cool bathing suit?"

Now boys those plus fours wouldn't hurt you. You're too doggone bashful perhaps,
But that rig that I wore nearly killed me. Please don't make us crackers wear chaps.

WHAT AND WHY IS NEWS?

By C. E. Randall, Washington

Human Interest: The fellow feeling that binds men together is so strong that the journalists have evolved a special type of story to appeal to this feeling. The "human interest", involving the emphasis of the personal element in the affairs of life, is injected into the columns of newspapers and magazines wherever possible.

It is said that of the three major topics of conversation among us mortals - persons, things, and ideas - persons undoubtedly can claim the principal share in total word volume. People like to talk about and read about other people. The human side of events always has an appeal. How one man lost the little patch of timber which represented his life's savings, or how he saved it at great effort and risk, will be read with more attention than an abstract discussion of economic losses from forest fire.

In the Forest Service, our work is objective in the main, rather than subjective, and the human element is apt to be overlooked. But whenever we can add a little human interest to our PR stories it will give them that much greater carrying power. Little incidents in the life of a Forest officer add to an account of the work he is doing. The personal feelings, hopes, privations, or setbacks experienced in connection with some undertaking will create as much interest as its successful outcome. Human interest can often supply a deficiency in news value of other sorts in a story. Indeed, it will make stories itself. By developing trivial incidents of little or no real news value to bring out the humorous or the pathetic personal phases news writers get many good stories, technically known in the profession as "human interest stories." One of my first cub-reporting jobs was just this - to comb the town for human interest to fill a column headed "Our Neighbors." Once I even made "page one" and a good word from the boss with a little story about a traffic officer holding up traffic in all directions to wait for a cat to cross the intersection.

The life and work of a Forest Ranger offer opportunities for human interest stories. Perhaps we can put out a little human appeal about the lonely lookout, or how his loneliness was overcome by a radio, or how he has to carry water several miles every day to wash his face. Such stories always present opportunities to carry appropriate forestry lessons - in fact, we want to watch our chance in every story from a fire to a funeral like the Southern California booster to say a few well-chosen words about the beneficent influences of good forestry practice.

Appeal of Children: The universal appeal that children make gives news of their doings special value. Whenever a child plays a part in an event it is pretty sure to be the best feature of the story. The letter which a small girl might write to the Forest Service headquarters asking the forester to help find her dolly which she lost in the woods probably would take equal place in the day's news with an interview outlining the forest administration policy for the whole district. If a two-year-old child plants a tree, or a ten-year-old boy reports a big fire or puts out a small one, it stands a good chance of making the wires.

Interest in Animals: The popular interest in animals makes stories about them good reading. Our work gives many opportunities to make use of this appeal. A Ranger's horse may be "pensioned" after long and faithful service; a Forest officer might make friends with his feathered and furry neighbors; anecdotes might be picked up about cattle or sheep or dogs on the ranges. And then we have our wild life to draw on. Animal stories will always be snapped up by the press. Scan the pictorial sheets and you will see almost as many pictures of animals as of bathing beauties.

GOOD NEWSPRINT PAPER MADE FROM NEW ZEALAND HARDWOODS

Newsprint paper equal in quality to American standards has been made from New Zealand hardwoods by the Forest Products Laboratory.,after a year of experimentation carried on for the New Zealand Forest Service, according to a recent announcement made by the New Zealand government. The final test of the operation was the production of several tons of newsprint and rotogravure papers at two Wisconsin mills and the running of the newsprint paper over the presses of a daily newspaper.

The arrival at thinning age of 100,000 acres of fast-growing planted forests in New Zealand and the consequent desire to put the plantations on a sound production basis through profitable utilization of thinnings prompted the attempts to use two native species and four introduced species in the manufacture of newsprint and other papers. The Laboratory undertook the investigation in the belief that results might be obtained which would be applicable to American species. This belief has been justified. The development of a successful process for manufacturing newsprint from New Zealand hardwoods opens up possibilities in the use of American hardwoods (hitherto unused for this purpose) for newsprint production in this country.

The production of newsprint from hardwoods is of great significance in the United States. With spruce, the "Old Reliable" of newsprint, and hemlock nearing depletion in this country, with finished newsprint, pulpwood, and pulp being imported in quantities, and with the prospect of increasing rather than decreasing prices, diversification of any sort should not be unwelcome to newsprint users.

THE WILDERNESS AS A MINORITY RIGHT

Robert Marshall, Northern Rocky Mountain For. Exp. Sta.

Manly Thompson's anti-wilderness article in the May 14 issue of the Service Bulletin when simmered down rests on two ideas. Only one-half of one per cent of all the people desire to use the wilderness areas. Consequently, according to the fundamental Forest Service policy of "the greatest good to the greatest number in the long run", we have no right to set aside any of our area for the exclusive use of such an infinitesimal minority. The only errors observable in this logic are an unproven premise and an inconsequent conclusion.

Presumably pure guesswork forms the basis of Mr. Thompson's appraisal of the proportion of the population with "any hankering for a real primeval wilderness." Another person might honestly estimate as high as ten per cent. At present there is no way to determine which supposition is closest to the truth. But after all the exact fraction of the citizens who demand wilderness areas is not of dominant importance. The real question is whether this minority, whatever its numerical strength, is entitled to enjoy the life which it craves. This is the old problem of minority rights, which has been in continuous dispute since the savages of the Late Stone Age first banded together in rudimentary tribes.

Democracies, which are founded on the principle that the will of the majority shall govern, have a tendency to ignore the prerogatives of minorities. The outstanding champions of democracy, Voltaire, Mill, Paine, Jefferson, all appreciated this danger, and their works are interjected with eloquent pleas for the rights of the few. To-day, in almost all democracies, the liberty of minorities to write and speak as they desire is at least theoretically protected. Not only is this negative recognition given those who differ from the mass, but furthermore, federal, state, and municipal governments spend prodigious sums of money to meet the more costly needs of only a fragment of the people. Thus public funds maintain museums, art galleries, universities, swimming pools, and the patent office. They, like the wilderness areas, are open to the use of everyone; similarly they are vital to a diminutive minority of the entire population. Yet they are almost universally approved; and the appropriations to maintain them are increasing phenomenally.

A small share of the American people have an overpowering longing to retire periodically from the encompassing clutch of a mechanistic civilization. To them the enjoyment of solitude, complete independence, and the beauty of undefiled panoramas is absolutely essential to happiness. In the wilderness they enjoy the most worthwhile or perhaps the only worthwhile part of life. This necessity of getting away from the stifling artificiality of civilization cannot be explained to those who have never apprehended the passion for the wilderness, which is just as genuine as the more conventional yearnings for love and beauty. It may be an atavistic and unreasonable lust, but it is ineradicable. Strangely enough, a large share of America's greatest thinkers have felt this urgency: Jefferson, Thoreau, Emerson, Melville, Mark Twain, Henry Adams, William James. Furthermore, many of her outstanding men of action have looked upon the wilderness as a fundamental part of their life. In this connection Washington, Morgan, Gallatin, Jackson, Scott, Lee, Thomas, Grant, Sherman, Johnston, Hancock, Sheridan, Cleveland, and Roosevelt come immediately to mind. Exactly how large a part the wilderness played in the development of these men is indeterminable and irrelevant. The issue is whether those of similar desires have a right to a minor portion of America's vast forest area for the nourishment of their peculiar appetite.

"Our life would stagnate if it were not for the unexplored forests and meadows which surround it. We need the tonic of wilderness. We can never have enough of nature. We must be refreshed by the sight of inexhaustible vigor, vast and titanic features, the sea-coast with its wrecks, the wilderness with its living and its decaying trees." There are those to whom this thought seems truer to-day than when Thoreau expressed it three-quarters of a century ago. They feel that they too, in the words of another wilderness lover, are "endowed by their creator with certain inalienable rights, that among these are life, liberty, and the pursuit of happiness." And they know that for themselves the full enjoyment of these rights is possible only in the wilderness.

YE EDITOR DISCOVERS

Efforts on the part of Forest officers in District 4 to reduce the number of deer in the Kaibab herd continue to meet with opposition. The latest plan proposed to have Government hunters kill approximately 1,000 head, to be transported in Government trucks to the Navaho Indian Reservation, where the meat and hides were to be used by the Indians, who are at least partially supported by the Government. It was hoped that this plan would not meet with opposition from the Arizona officials, who have objected heretofore to the removal of deer by sportsmen except in conformity to the Arizona game laws. The plan proposed by the Forest Service would conform with the decision handed down by the Federal Court granting a temporary injunction against interference by State authorities with the administration and protection of the Kaibab Forest. The plan was presented by the Solicitor General of the United States to the Attorney General of Arizona, who recommended that the State Game Warden approve the adoption of the plan. The State Game Warden, however, objected to the plan on the grounds that the removal of the deer was not necessary, and the Solicitor General was advised to this effect. Because of the opposition expressed by the Arizona authorities, the Solicitor General has advised that pending the decision of the Supreme Court in Arizona's appeal from the decision of the District Court the Forest Service should not carry out the plan for removing the excess deer from the Kaibab. It is possible that further negotiations may result in the withdrawal of opposition on the part of Arizona to removal of excess deer and that the original plan may be carried out in time to prevent excessive losses in case of shortage of feed during the coming winter.

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Two new motion pictures on grazing are to be shot on Districts 3 and 4 this summer. The D-3 picture is to show the Forest Service method of handling cattle on the range and the D-4 picture the handling of sheep. Shots are also to be made for a new picture on methods and results of selective logging in the Lake States. This picture is to be a follow-up of the work done by Mr. Zon in selective logging studies.

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Fire conditions in the Districts are as follows:

District 1 (Aug. 14): "Fire expenses thirty three thousand dollars. One hundred forty eight fires occurred and under control at end of period. Lightning storms night tenth set approximately one hundred fifteen fires on five Forests Clearwater, Lolo, Cabinet, Flathead, Selway. High temperatures and winds following five class C fires not yet controlled. Approximately five hundred crew men and fire fighters employed on suppression. Clearwater Forest has most serious situation with two class C fires covering eight hundred acres in very inaccessible country on Weitas Creek.

District 3 (Aug. 13): "Expenses twelve thousand nine hundred, emergency patrolmen fifteen. Good rains in New Mexico and in portions Arizona."

District 5 (Aug. 14): "Expenses one hundred thousand. Large fires during period on Sequoia, Stanislaus, Sierra, Tahoe and Santa Barbara, now all controlled. Total area burned ten days thirty four thousand acres. National Forest land sixty six hundred acres. Timber damage relatively small. Weather conditions unfavorable."

LEGION MEN SIGN UP AS GUARDS OVER CALIFORNIA WOODS

"Mounting guard" in defense of California's forests and fields, 500 World War veterans, recruited by Sacramento Post of the American Legion have been mustered into service as emergency state fire fighters.

Composed of units of 50 men each, fully equipped for emergency duty on the fire lines, the Legion army of fire fighters has been formally placed at the command of State Forester M. B. Pratt by E. T. Cook, director of forest fire prevention for the Sacramento Legionnaires and organizer of the company.

The volunteer organization, which will be "on call" at all times, was characterized as "one of the greatest steps yet undertaken toward cooperative fire suppression."

The emergency fire fighters are so organized that they can be called out in first, second, and third line units, rated on the rapidity with which they can be assembled and on whether the men are available for short or long period of service. - D. 5 Bulletin.

FOREST SERVICE SPIRIT

By Walter H. Lund, Olympic

While showing the "Bull Bucker" over the cutting line on an Olympic timber sale some time ago, and after explaining to him why we were not cutting an area of second growth, which the Company would like to have, he remarked, "You know, I'm beginning to believe that the Forest Service is trying to do things for the best interests of the people." I heartily agreed with him and then explained more of our reasons for doing certain things. This man has always been conscientious about meeting our requirements in falling and bucking, but I believe now that he is better still, because he sees and believes that they are for his and everyone's good and not meant to merely make it hard on the operator. The moral of this is that a little PR work on a timber sale may help a lot. This instance, perhaps, was an accident, but I can readily see the benefits of it and mean to practice it more. When all operators and their employees see us as this man does, timber sale supervision will be a much easier and pleasanter job.

TWENTY-FIVE PER CENT FUND AND FIRE PREVENTION

There is a growing feeling among the counties in the western part of D-2 that the returns from the Forest Service Twenty-Five Per Cent Fund is something of importance. Furthermore, there seems to be a growing appreciation of the relation between these returns and the prevention of forest fires. Recently a receipt came to the Fiscal Agent from the County Treasurer's office of Pitkin County, Colorado, for that county's share and on the outside of the envelope appeared the following legend, placed there evidently by a rubber stamp: "Future county revenues are directly decreased by fire damage to the National Forests. Help protect them from fire." District 2.

In the administration of the forest reserves it must be clearly borne in mind that all land is to be devoted to its most productive use for the permanent good of the whole people. . . Where conflicting interests must be reconciled, the question will always be decided from the standpoint of the greatest good of the greatest number in the long run.

James Wilson, Secretary of Agriculture
February 1, 1905

FOREST SERVICE U S DEPARTMENT OF AGRICULTURE

Service Bulletin

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COMMON VERSUS SCIENTIFIC: PLANT NAMES

By Matt J. Culley, Santa Rita Range Reserve
(In answer to R. S. Campbell's plea for scientific names
in the Service Bulletin of July 2, 1928)

In determining whether we are going to adopt the use of common or scientific names for our native range plants - in so far as range and livestock investigations are concerned - let us first consider three important questions, the answers to which must ultimately govern our procedure. These are, to my mind, in the order of their importance, as follows:-

1. What are we trying to sell as a result of our investigative findings?
2. To whom are we ultimately going to have to sell these results?
3. What are the mediums through which we can best distribute our results?

In answer to the first question, as I see it, we are trying to sell the principles of good range and stock management and not a technical education in taxonomic botany. If this is the answer, let us confine our efforts to enlightening our audience on the basic principles that have been proven advantageous to the conduct of range and stock management, not forgetting that the fewer things we attempt to put across at one time, the greater will probably be our final measure of success. At the same time the more simply and directly we can put them over the more likely are they to be accepted and tried out by the very people we are trying to reach.

Answering the second question: Our results must be sold to the stockmen who are, in the final analysis, directly responsible for the conduct of the range industry. Further we must consider the stockmen of today - for they are a hardy bunch and likely to be with us for a good many years to come - and not wait for the new generation of stockmen many of whom will no doubt be better educated and equipped to conduct the industry on a scientific basis. So it seems to me, that with the stockmen as our audience, we must train ourselves to talk their language instead of expecting them to learn ours. What the average stockman wants to know is HOW TO MAKE MONEY and he knows without a shadow of doubt that learning to call "Burro weed" by such a high sounding name as Aplopappus isn't going to get him anywhere in lifting the mortgage off his outfit. In order to accomplish anything with 99 per cent of the stockmen it is absolutely necessary to win their interest, confidence, and cooperation, and I know of no better way to lose all three than by springing a lot of high sounding names and technical terms, about which they know nothing and care less. And we can't condemn the stockmen for this attitude for, by nature, they are just made that way. Furthermore the stockmen have troubles enough of their own without our attempting to add to them, and we have problems enough to solve without attempting to conduct courses in botany.

There are, no doubt, stockmen who are willing to undertake the learning of scientific plant names but they are, for the most part, the swivel chair type and are not in need of help nearly so much as the real stockmen who live with and make the industry what it is to-day.

Answering the third question, that of the medium through which our results must be broadcast, we find, generally speaking, several groups on which we must place our chief dependence for selling our finished product. Briefly these are: -

1. Technically trained grazing men.
2. Administrative officers.
3. Extension service and other bureau workers as well as the personnel of various colleges and experiment stations.
4. The stockmen themselves.

Of technically trained grazing men we have comparatively few and at best not many more than we need to carry on investigative work -- not counting the many problems which we have not as yet started to work on, due to lack of personnel. Our technical men then have little opportunity to spread the gospel other than at field days or similar occasions. Within our own organization we must rely largely on the administrative officers to actually carry the fruits of research into the field and put them across in a practical way with the great multitude of stockmen who cannot be reached except by personal effort on our part and through methods, which only the administrative officer on the ground can devise and employ to advantage. Few indeed, I think, are the administrative officers who would try to convince a stockman that there is no such thing as Mexican poppy but that he must call it Eschscholtzia, that the ever familiar standby grama is not grama at all but Bouteloua and that it isn't loco but Astragalus that takes his stock into the shadows of the great beyond; it just simply can't be done with the present generation of stockmen.

The extension service workers and others find themselves in much the same predicament as the administrative officers of the Forest Service. And last, though by no means least, come the average stockmen that we may reach and convert to the principles of better range and stock management. They, by their actual demonstrations may do much to further the basic principles we have developed but never have I known one that would, in talking to a neighboring cowman, try and twist his tongue around some of the names we give our native vegetation.

In conclusion, let's keep the common plant names and every day language of the cowman, and along with these his respect, confidence, and cooperation.

The standardization of common names is perhaps a partial solution and can be accomplished for at least the most common plants; however, even in this we would be up against the problem of trying to educate the stockmen in the use of standardized common names. Possibly a better solution, though somewhat harder on the technical and administrative men, would be the learning by them of the different names applied to the same plant. This could be done by the compilation of a check list of common names used in different localities, not a task to be smiled at, to be sure, but one that would place the burden where it belongs - on the teacher and not on the audience. Surely it should be easier for the trained men of the Forest Service to learn the common names than for the unscientifically trained cowman to assimilate our botanical and technical terms.

PRAISE FOR TWO YOUNG FIRE FIGHTERS

Two boys, Lynn Sanderson of North Hollywood, California, and Alfred Hicks of Antonito, Colorado, have rendered valuable service in connection with forest fire suppression. Acting Secretary C. F. Marvin, on learning of their splendid work, wrote them as follows:

Dear Lynn:

Information has reached this Department of an action of yours which merits the highest commendation. From the account received it appears that while on the Rio Grande National Forest in Colorado on June 21 you smelled smoke and that at your insistence your companions joined with you in searching for the cause. The fire was discovered burning some distance away and while one of your companions went for the Forest Ranger you and your father fought the fire until the arrival of assistance.

Not having the opportunity of seeing you personally, I take this way of letting you know of the Department's very sincere appreciation of this fine exhibition of public spirit.

Sincerely,

Dear Alfred:

Information has reached this Department of an action of yours which merits the highest commendation. From the account received it appears that while fishing alone in the Conejos River you noticed a smoke on the hill about a half a mile above the fish hatchery, and that you immediately dropped your fishing rod, waded the stream, and climbed the hill to the fire. It was found to be burning in a rotten log and you at once scratched a trench around it and sent out repeated calls for help. When assistance came you were found to be completely exhausted but in absolute control of the fire.

Not having the opportunity of seeing you personally, I take this way of letting you know of the Department's very sincere appreciation of this fine exhibition of public spirit.

Sincerely,

THE FORD MOTOR COMPANY TIMBER LANDS

By E. W. Tinker, D. 2.

One who travels the excellent highways of Baraga County in the Upper Peninsula of Michigan will enter some of the most beautiful beech, birch, and maple forests that have existed. Travel for miles to the east and west leads through the waste lands that have been to a large extent burned time and again. But in Baraga County the virgin forest still exists, and in large part where this forest exists neat signs will be found posted along the road, labeled "Ford Motor Company Timber Lands." Estimates of the total acreage owned by this Company vary from 250,000 to

600,000, and the company has no land or timber for sale.

Representing one of the ramifications of the Ford Motor Company, the policy of the company in handling its lands is of interest. For the time being, at least, this policy seems to be one of preservation rather than conservation. Camps are idle and the company is buying logs in great numbers from other owners in the region and accessible to its mills. A policy of this kind where such enormous investments are involved would seem to indicate that there must be some economic basis for it, or the company is taking a long shot in the dark. One can search in vain for economic justification for the purchase and holding of these lands, at least in the immediate vicinity where the logging of hardwood is still in process. However, considering the general situation with regard to hardwood in the region, there is some doubt as to whether it is not an exceedingly shrewd policy based upon a thorough investigation of the available supply. Figures obtained from fairly reliable sources indicate that, by and large, the logging of hardwoods in the Lake States will be completed in about seven years. There will, of course, be a few companies who will be able to continue their operations for many years beyond this, but as a factor in the hardwood market it will practically cease to exist about that time. It is true that when the price of logs goes up the Ford camps are started and the company ceases to be interested in the purchase of logs or acid wood from other operating agencies in the region.

I had the opportunity to visit the Ford camps in company with an oldtime logger and it was amusing to hear his epithets of scorn concerning the military appearance of these camps. Not a horse in sight but row upon row of 'Ford Motive Power' in the form of tractors and trucks; bunkhouses where men are required to shave twice a week and which have all the appearance of a hospital from the standpoint of neatness and sanitary conditions. With a five-day week in effect one wonders how order can be maintained with from two to four hundred lumber jacks loafing about with nothing to do. However, it is maintained by virtue of the fact that there are three men waiting for every job that becomes vacant.

With regard to the woods operations and sustained yield of forest products, the Ford Motor Company has but one outstanding policy; that is, "Fire Prevention." Hardwood brush is burned but no selective logging is practiced. Probably this is a mistake if the company intends to remain in the business of producing its own wood. However, it was to be noted that absence of fires even in the more recent cuttings has meant an entirely different appearance from the surrounding region, and if protection is successfully maintained there will at least be a young and thrifty forest growing on the land. At any rate, the men who run the operation are perfectly willing to defend their practices and, by and large, the entire organization seems pretty self-sufficient.

WHAT AND WHY IS NEWS

By C. E. Randall, Washington

"Names-Make-News": The value of news concerning any person or thing may be said to vary in direct proportion to his or its prominence. "Names Make News" is a saying among the journalists, and the bigger the name the better the news. Far more readers will be interested if a transatlantic flyer or a candidate for president has a slight cold, than if the corner butcher has double pneumonia.

Last year, we were able to say just about all there was to say about the

Harney and Black Hills National Forests and have it grabbed up by the newspapers throughout the nation, because the President was vacationing in the vicinity. We can still give added interest to what we want to say about these Forests by reminding the reading public that we are talking about the place where "the President spent his summer last year."

Similarly, if any prominent person visits a National Forest or becomes in any way connected with a forestry movement or activity, the news value is increased. The visit of a movie star would offer opportunity to tell the world all about the forest management methods and fire dangers of the region. And no movie star would offer serious objections to the publicity.

Prominent places, as well as prominent persons, have news value. People like to read about the places they already know about. Whether they have been there or not, all are interested in reading about Niagara Falls, Coney Island, or the Library of Congress. They will also be interested in reading about the prominent places we have to offer, such as Pike's Peak, Mt. Whitney, Mt. Lassen, or the Natural Bridge, and about our activities in connection with them. Prominent places, as a setting for events, give them added importance.

Likewise, prominent institutions or organizations increase news value. If we can connect a forestry message with some well-known name like the American Legion, its interest is augmented. More and more the Forest Service becomes a name that possesses news value in itself. News publicity of good quality and large quantity will make for this.

Local Interest: The value of news also may be said to vary in inverse proportion to its distance from the reader. Local events interest readers most because they know the places and often the persons concerned. To the average reader, a revolution in Europe will be of less interest than the fact that the next-door neighbor's cow has the colic.

Many an item will make good news locally, because it concerns the interests of the immediate locality, or because the local Ranger or Supervisor says so, even though it lacks the elements of universal appeal that make for widespread interest.

Any news intended for local consumption should be localized as much as possible. Its value is increased if it can be definitely tied in with well-known local persons, places and things, rather than stated in general and abstract terms.

COOPERATIVE PROGRESS ON THE SISKIYOU

By A. G. Jackson, Siskiyou

Forest atlas records for the years 1921 to 1927, inclusive, indicate that progress has been made on the Siskiyou in developing cooperation in fire prevention and control work. There were 80 man-caused fires in 1921, the largest number in any one year of the period. In 1927 there were 19 man-caused fires, a falling off of 75 per cent in 7 years. There were fluctuations in the years between but the general trend was downward. The record for the serious fire season of 1924 shows 57 man-caused fires on the Siskiyou which is 23 less than in 1921, a reduction of almost 30 per cent. The incendiary fire record for the same period indicates progress even more clearly. There were 43 incendiary fires in 1921, 18 in 1922, 12 in 1923, 17 in 1924, 11 in 1925, 8 in 1926, and 1 in 1927.

Whatever progress has been made towards getting on top of the fire situation on the Siskiyou is due to improved roads and trails and public relations. Education, with discipline where necessary, is doing the trick. Forest officers, who seize every opportunity to gain the respect and good will of all Forest visitors and users, are the reason for much of the improved forest fire sentiment. Local papers have helped in news and editorial columns. American Forest Week has made possible closer cooperation with schools and other organizations. The Forest protection seed sown during American Forest Weeks is bringing forth fruit. The public is developing a fire-consciousness that views apprehensively any fire burning uncontrolled in the Forest during fire season. The smokeless summer idea did much to crystallize the sentiment of the Grants Pass Chamber of Commerce in 1927. Discipline, represented by law enforcement activity, is having its effect where other methods will not serve.

Credit must be given to changed conditions on the Forest due to road and trail construction which has opened up the region to tourists and others and thus brought home to local residents the value of green hills as an attraction to money-spending visitors. The Redwood Highway, the Oregon Caves road and the Roosevelt Highway deserve a large share in the credit for securing cooperation in fire prevention and control work. The proposed Bear Camp road will undoubtedly be effective in the same way. Tourists do not frequent burned timberland.

In one district the incendiary problem was practically eliminated by a straight statement from the Supervisor that if such fires continued, men and supplies would be brought in from the outside and no forest fire money would be spent locally. Inasmuch as the Forest Service furnished the only payroll in this region, this policy proved so effective that in this district where formerly incendiary fires were numerous, there has not been one during the last two fire seasons. Undoubtedly the fact that wealthy men, attracted by the natural beauty of the region, were beginning to buy land and build summer homes, thus showing clearly that the woods and brush had a value in their eyes, did as much to prevent incendiary activity as the Supervisor's warning words.

On the whole, it is safe to say credit for improved conditions on the Siskiyou must be divided between public relations and improved transportation. However, we still have too many man-caused fires.

PICTORIAL HISTORY

By E. N. Munns, Washington

An administrative research project this year in the Rocky Mountain District appears to hold such possibilities that it seems desirable to call it to general attention. This project is so simple that it appears almost without merit. Yet it is. This project is none other than to take from certain established points a series of photographs of the same subject or view at intervals over a period of years. District 2 plans to take these "repeat" photos of subjects such as the capture of mountain meadows by spruce-aspen reproduction, the progress of erosion in one place, and its control by protected vegetation, in another, the disappearance of willows on high altitude sheep range, etc. The possibilities in this permanent photographic record are enormous, for it can be extended to record the changes that take place on an area burned over, the rate of establishment of reproduction on a timber sale, the progress of disintegration of slash, the development of grasses under restricted grazing, and so on for a multitude of subjects.

And one advantage of this project is that, comparatively speaking, it requires but little time. The establishment of permanent sample plots requires often several days' time, growth studies need many measurements to be reliable and often considerable area must be traversed. But, after a desired subject has been found, a corner definitely established and witnessed, and a photograph carefully made, one can proceed with one's regular duties. Then, a year later, or two years or five years later, another photograph from the same spot and of the same subject can readily be made.

It should not be inferred, however, that photos of the greatest value can be taken with a Brownie held in the hand and pointed more or less accurately (and usually not at all level) at the subject on a dark afternoon in December. To be of the greatest value a stake should be set, properly and carefully witnessed and tied into some known spot, the camera mounted on a tripod, the right exposure found, and the subject desired carefully centered so that it will appear in the final picture as it should and not without the essential features cut out. To make certain that one has the desired view, several exposures should be taken because of the chance of a wrong aperture, wrong exposure, improper light. It is far better to take a few extra photos than to come home and find that something went wrong, that one didn't know about at the time. The cost of an extra exposure or two is as nothing compared with the lost opportunity or the time and effort expended in preparing for and taking the picture in the first place. So, although a pictorial record seems a simple task - and it is if done rightly, - it pays to exercise good judgment and care and to expend thought in getting what one goes after.

Repeat photographs are made systematically, regularly, and as a matter of course in the conduct of research projects in the forest experiment stations. On permanent plots they are a part of the historical record and are as indispensable as the written notes and the measurements. On most sample plots, repeats should be taken at least every five years but in many instances they are made annually or oftener if there is need for a definite continuous record, or if quick changes take place such as before and after cutting, before and after thinning, before and after slash disposal, before and after the drive.

Should not such a photographic record be made a part of every timber sale with repeats every five years?

Could it not also be made a part of the regeneration of each burned-over area, say of 100 acres or more?

Would not such a record be valuable on grazing allotments; on eroding areas, on plantations?

And, is there not a place for the pictorial record of improvements and stations and camps in the history of each National Forest?

The possibilities are infinite!

WATER AS A FIRE WEAPON

The increased use of water is probably the biggest advance in fire suppression made in District 3 during the past few years. To the Tusayan belongs much of the credit for pioneer work in this field. Another Forest, which has pursued a conservative course in the past, is now, on the strength of this season's experience, an enthusiastic advocate of water as a time saver in mopping-up and as a direct aid to suppression. Are other Forests with hazard areas accessible by motor overlooking a bet in not making more use of supply-tanks and hand-pumps? The equipment, with the possible exception of trailers - usually desirable but not essential - is inexpensive. The main thing is the urge, proceeded by need and followed by action. - H.G.C., District 3.

YE EDITOR DISCOVERS

J. G. Peters has been designated as Forest Service representative on the advisory board of the southern forestry educational project being organized by the American Forestry Association, the States of Georgia, Florida, and Mississippi, the Florida Forestry Association, and the Georgia Forestry Association.

A fund of $150,000 has been raised to carry on this project. For the support of a three year campaign contributions have been pledged by each of the three States, the Commonwealth Fund of New York, John D. Rockefeller, jr., the Florida State Board of Forestry, the Georgia State Agricultural College, the Georgia State Board of Forestry, and by George D. Pratt, president, and other members of the American Forestry Association.

The primary object of the campaign will be to arouse popular interest in preventing and suppressing forest fires, and particularly to combat the practice of woods burning.

Fire conditions in the Districts are as follows:

District 2 (Aug. 21): "Expenses thirteen hundred dollars. Conditions generally dry and dangerous throughout District with local rains relieving situation in spots."

District 4 (Aug. 20): "Expenditures estimated twelve thousand dollars. Emergency guards none. Fire hazard South Idaho high. Authorized Boise, Payette, Idaho, and Weiser closed to smoking and camp fires only under written permit beginning today. No fires burning out of control."

District 5 (Aug. 22): "Fire conditions continue very bad all over California. Freak winds, low humidity. Cajon fire San Bernardino out of control on north and east lines. Thirteen thousand acres. Four hundred men. Hope control north line tonight, but east line uncertain. Converse Creek fire Sequoia eight thousand acres yet uncontrolled. Two hundred men. Cave Diggins fire Stanislaus burned ten miles since yesterday. Ten thousand acres outside. Sixteen thousand inside. Will reach twenty thousand inside before control. Two hundred men. Two smaller fires on Tahoe. Large fire outside but threatening Sierra. Have spent twenty five thousand. These fires cost running seven thousand day."

District 6 (Aug. 21): "Fire expense sixty five thousand seven hundred. Hazard increasing rapidly east side. Clouds and fog west side today."

FLAT HEAD BORERS LIVED 1200 YEARS AGO

Recently a flat headed borer was found in a redwood tree where it had attacked a fire scar, been imbedded in the pitch and then covered by 1200 years of ring growth. The same species is found attacking redwood today.--F.P.Keen, Manual of Bark Beetle Control in Western Pine Forests.

> In the administration of the forest reserves it must be clearly borne in mind that all land is to be devoted to its most productive use for the permanent good of the whole people*** Where conflicting interests must be reconciled, the question will always be decided from the standpoint of the greatest good of the greatest number in the long run.
>
> James Wilson, Secretary of Agriculture
>
> February 1, 1905

Service Bulletin

Contents Confidential

Vol. XII No. 37 Washington, D. C. September 10, 1928

WILDERNESS WRECKS

Dear Editor:

On my way from home to "contact" the swivel chair this morning the local representative of one of Montana's large corporations and a gentleman who occupies an important place in the direction of the company's affairs stopped me to say that they just had word that a locally owned plane had made a successful landing at Big Prairie, which place is a ranger station in the heart of the South Fork country, Flathead Forest, and 50 miles from any road. A little later a 'phone call was relayed to me asking that I tell these gentlemen not to go in with the Ford Tri-motor 14 passenger ship, -- but to wait until the smaller plane came out. I don't know whether the Ford has gone in, but that is or was evidently contemplated.

Now I come across your suggestion in the July 9 Bulletin that this question of aeroplanes intruding over wilderness areas ought to receive some discussion. What are we going to do about it? Here's our great Flathead wilderness area into which the wilderness advocate would never allow roads to be built. It should be forever sacred from the stink of partially consumed gasoline, the honk of horn, and the rattle of flivvers.

Only those who "work their way" shall go in. It should not be permitted that the customers who have made Henry Ford the richest man on earth shall despoil this people's wilderness. But another of Henry's customers in another of his contraptions just picks up a dozen or so of his friends and hops over there into the heart of the thing in an hour's time and sends his chauffeur back for another load. Isn't this worse than the case of those dudes who, according to Aldo Leopold, went into the wilderness in Minnesota and had their watermelons carried in by hired men? Or is it?

Easy landing places aren't so plentiful in the back country but even in D-1 there are frequently patented lands of some sort on which landing fields may be made. So I don't just see how we're going to keep these dudes out. Looks like they'll be jumping over there from Butte, Great Falls, Missoula, and more distant parts with their fishing rods, guns, beds, watermelons, etc., whenever they have a few minutes to spare. Can we deny them a crossing permit? Are they more or less desirable than their poor cousins who travel about by car? I don't know, but I do know that an aeroplane smells worse, makes more noise, and is more nosey than a flivver. How in heck is the "one-gallus" man going to enjoy his vacation in nature's great wilderness with these guys swooping down on him at any minute? Looks to me like it may destroy his privacy entirely.

If you get any advice on this subject from any of your correspondents, will you please send it to me by night wire?

Very sincerely yours,

Fred Morrell, D. 1.

Dear and Worried District Forester:

We have been scurrying around in an endeavor to locate some of the GREATER ONES who could instantly solve your problem but we find, alas, that they are mostly in the field solving other problems - in other words, the cupboard is bare. However we hasten to share with you our last crust of intelligent solutions as follows. Something has got to be done. That is obvious. Something has got to be done muy pronto, because if Henry ever gets into his w.k. mass production stride your forests are going to look as though a visitation of locusts had struck them, and having no green trees you will have no excuse for having forest fires, nor anyone to care whether you have them or not, which must inevitably destroy the morale of your organization.

You have, as we see it, two courses open. First, seem to be conciliatory - this is a temporary solution. Assign landing places in your wilderness, thus seeming to agree to this form of use, but assign them on areas where igneous protrusions are plentiful with the idea primarily of discouraging landings and secondarily of salvaging plane parts to be later used in Forest Service work. This should probably be your first and best bet, to be followed as rapidly as funds will permit by complete discouragement, using long range aircraft rifles to bring down the venturesome ones, taking care to drop them somewhere in the midst of your most smashing wilderness types. This is a perfectly safe solution since the evidence would be completely destroyed.

The long time solution is one on which you should begin with this year's appropriations taking as much as you can without getting nailed for it. This solution I can give you in a word. Reforestation. Get all possible landing places planted to quick growing species, and we can, I think, assure you that no wilderlusters will land in your district -- intentionally. - Ed.

AN APPRECIATION

By Joseph C. Kircher, Washington.

Did you ever try to spend $100,000 in six weeks?

It might be a pretty hard job; and if, in addition, one of the conditions for spending it was that you had to get your money's worth out of every dollar and had to account for every dollar, the job would really assume some proportions. This is about what was put up to C. S. Webb of District 1 this spring, when he was told to handle the big insect control job on the Beaverhead.

I don't know exactly what his instructions were, but they might have been something like this: "Now, Webb, we've got a lot of bark beetles out there in the Big Hole country on the Beaverhead. They're scattered over a territory about 50 miles long and 20 miles wide. They're in some trees and not in others. We don't know how many there are but we know there are plenty, for these fellows from the Bureau of Entomology estimate that some 60,000 or 70,000 trees have bugs in them. You'll find them all right and plenty of them. And remember you can't get into that country to do any good until about May 1 and you've got to do your bug catching before July 1, both because about that time the bugs begin to fly and we don't believe you could catch them then even with butterfly nets, and because Congress has said that if the money we have is not spent by July 1, they'll take it away to pay interest on the national debt.

"Webb, what we want you to do is to get yourself a crew together, go out there and kill $100,000 worth of bugs for us. We'll give you the $100,000, but remember this is not a matter of simply spending $100,000 killing bugs. You've got to account for what you do and you've got to kill at least $100,000 worth of bugs and we'd prefer to have you get about $110,000 worth for the money. Now go to it."

It's a big order and many a man would have been pretty much excited. But not Webb. Do you know him? He's quiet, not at all excitable, a hard worker, and has a way of inspiring confidence which makes men work for him. So he quietly gets to work - no fuss - and first of all surrounds himself with a good collection of efficient Forest officers.

The preliminaries take lots of time. There are tents to buy and beds and stoves; as well as food supplies and tools to do the job with. Transportation also looms as a big job. The job is not on the railroad but some 50 miles inland over fair to poor roads. But the supplies are collected early in the spring and started on their trip to the Big Hole so that everything will be in readiness when the men come in for the big "killing."

So Webb, with Neff as his chief helper, goes out early in April to line things up. They find a lot of snow and on Easter morning the thermometer at 20 below. Evenden from the Bureau of Entomology also shows up pretty soon, supposedly only as technical adviser, but he pitches in too on helping to organize the job, and then they bring Strong down from the Kootenai to handle the office end so as not to run afoul of the Fiscal Agent. They also bring in some other forest officers - all of them hustlers - and all of them go to work.

Then spring breaks and much of the snow disappears only to form mud and it becomes a matter of bouncing from mud hole to mud hole with the supplies - and often into them. Stuck - sure - most of the time, but the supplies keep moving just the same. These fellows had bugs to kill later on and they weren't to be stopped by mud or high water or whatnot.

Shortly after May 1, some 30 Forest officers come in to help and labor starts to pour in as fast as it can be absorbed. From then on, the organization is built up rapidly, until by June 1 about 450 men are killing bugs from 25 camps. It is a smooth running organization then. It works like clockwork and it works efficiently. It treats more trees per man than the year before and there is a friendly rivalry between the camps, which does much to increase the output. And it ends as a big success. By the end of June the money is gone and Webb has his $100,000 worth of bugs.

I don't know exactly what they told Webb when he came back to Missoula and reported that the job was finished, but it might have been something like this: "Webb, you and those fellows with you, sure went after that job hard. The money is gone and we feel satisfied that you got more than $100,000 worth of bugs."

LOGGING WASTE - TIMBER SALES VS. PRIVATE TIMBER OPERATIONS

By Allen H. Hodgson, D. 6.

Tabulations showing the results of the general survey of wood-waste in the logging camps of the Douglas fir region, which was conducted during the past 18 months by the Office of Products, are bringing out some very interesting contrasts.

The survey included the operations of 24 representative companies, widely distributed within the region. Five of these companies were logging National Forest timber and the amount of waste left in the woods by these has been compared with that left by outfits logging privately-owned timber. The study has shown that logger-manufacturers leave less material in the woods than independent loggers and therefore the comparative figures are drawn up on that basis.

The tabulations show that on the average the Douglas fir operators are leaving 20.0 per cent, in volume, of the original timber stand in the woods as waste. (Sound material measured down to cordwood size.)

Independent loggers are leaving 25.3 per cent.

Logger-manufacturers are leaving 18.1 per cent.

Independent loggers, prepared to utilize hemlock by the installation and operation of hemlock sawmills or pulp mills, are leaving 14.5 per cent.

It was found that the five companies who were logging National Forest timber were leaving waste in the woods as follows:

Company	A	33.7	per	cent.	Snoqualmie	Forest
"	F	16.8	"	"	Olympic	"
"	L	12.8	"	"	"	"
"	S	16.8	"	"	Santiam	"
"	T	13.9	"	"	Cascade	"

Companies A, F, and L are independent loggers while companies S and T are logger-manufacturers.

The results of the survey show that the average amount of waste wood left by independent loggers, working in National Forest timber, is 20.1 per cent of the original stand as compared with 22.3 per cent left by independent loggers operating in privately-owned timber. The average amount of waste wood left by logger-manufacturers operating in National Forest timber amounts to 15.1 per cent, while it is shown that the amount of wood left by logger-manufacturers working in privately-owned timber is 18.3 per cent.

ANTELOPE REPEL COYOTE ATTACK

Extract from June report dealing with conditions on the South Dakota Antelope Preserve by Louis Knowles, Leader, Rodent and Predatory Animal Control, Bureau of Biological Survey, Rapid City, So. Dakota.

"We received a call the first of June from the keeper of the State Antelope Preserve to send a hunter there, as he was having trouble with a pair of coyotes inside the preserve. Ben Kroll was hired for the work and spent the first two days on the top of a high butte in the center of the preserve, called Antelope Butte, watching the maneuvers of the pair of coyotes that he soon located. By the use of field glasses he could get a good view of everything they did. I will try and give what he saw as nearly as I can. Toward evening two coyotes came out of a brushy draw and started working up wind to where a small bunch of antelope were lying down. When the coyotes were within about a hundred yards, they began to separate and work back and forth hunting The old antelope began to get very nervous and occasionally one would whistle. Several bucks at once came to the bunch and began to chase the coyotes and strike them with their forefeet. The coyotes would dodge the attack and then make a run at the antelope, but the latter would outrun them. As soon as the antelope let up their attack, the coyotes would go hunting again and this would start the antelope to fighting once more. The antelope finally drove the coyotes away. The fight was too fast to venture a shot for fear of hitting an antelope.

"Along the latter part of the evening of the second day one coyote came out to a spot where three female antelope had been for the past two days, with young hidden close by. This coyote tried to hunt out one of the young. There were only these old ones this time to do the fighting. When the old coyote got too close, first one and then another of the antelope would make a mad rush. Several times in dodging, the coyote had to roll over to keep from being cut to pieces by the sharp feet of the antelope. The fight lasted for about half an hour before the coyote was driven away, and while it lasted it was not safe to risk a shot at the coyote.

"The next day I was with Mr. Kroll, and after a short time we located the den not over sixty rods from where he had witnessed the two fights. We got one of the keepers to help dig out the den, and in it were found the remains of three young antelope and the wings and feathers of a number of sage hens and grouse, scattered about near the part where the pups were. We got out six pups and upon examining their stomachs found them to be full of the flesh of young antelope. Traps were placed for the old ones. The next day Mr. Kroll shot the male coyote, and when we examined his stomach we found it full of sage-hen eggs -- over a quart of them. The old female got out of the preserve and had not returned when I left.

"While I was at the preserve I saw about 75 little antelope. There were a number of twins and one bunch of triplets. I watched the old one hide them, and when she had gone I tried for an hour to find them but had to give it up. Then both the keeper and I made another hunt, but failed. The little ones are concealed in the cactus patches, where it is very difficult to get to them. The old mother antelope feeds the little fellows about every three hours, staying with them not over ten minutes at a time. As soon as they are through feeding they are hidden and the old one leaves them."

WHAT AND WHY IS NEWS

By C. E. Randall, Washington

Appealing to Special Interests: Thus far we have been considering the elements of news which make for universal appeal. These are important elements to consider in the presentation of our press material directed to the public at large, and designed to promote general public sympathy and backing for forestry work. We have frequent occasion, however, to reach certain special groups of people, such as woodland owners, sportsmen, woodworkers, or rural dwellers, with specialized information.

The press offers a medium for this sort of news as well as general news. It will be recognized that not all the news carried by the press is intended for general appeal. We have the financial news and stock market reports designed particularly for the business man, the woman's page for the housewife, bedtime stories for the youngsters, the book reviews for the literary reader, and the race-track news for the sporty one.

Groups of people can always be reached with news which affects either their business or home interests, or is concerned with their amusements and hobbies. Such news is generally acceptable to the press, and the larger the group affected, the more readily it is accepted. News of this type is generally informative in character - frequently it presumes an elementary knowledge of the subject on the part of the reader. For instance, it will be noted that articles on radio appearing in the newspapers are frequently so technical as to be unintelligible to anyone but a radio fan. They are directed to a special group and concern a hobby. Similarly, we can safely incorporate some technical matter into an article designed to give information to a special group, such as woodworkers or lumbermen. It is well, however, to consider carefully what the general average of knowledge of the subject is among the group and not to be too technical. Beware of going over their heads. The average farm woodlot owner, for instance, probably knows little about woods management. In giving him information on methods and practices, we have to present it in an elementary manner. We may even have to use other means of appeal to arouse his initial interest.

The appeal to economic interest or to interest in pastimes or hobbies is always most effective in reaching special groups. In the case of the woodlot owner, we might appeal to his economic interest by presenting simple, easily understandable figures which show why it is profitable to manage a farm woodland properly, and by giving examples of how others have profited by proper woodland practice.

The sportsman, the fisherman, hunter, camper, or hiker, is easily reached by direct appeal to his interest in his hobby. By tying it in with useful information or sentimental appeal concerning his pastime, we can carry our forestry message to him. Our classic example is the article which tells how fires destroy game. There are other possibilities. The sportsman will be interested in all the phases of our game management work, and stream flow protection, when we tell him why he should be interested, - show its relationship to his hobby.

Our press material directed toward special groups will be of two types - that giving information to groups who already have some interest in, and knowledge of, the subject, and that intended to arouse initial interest. We must consider the group to be reached, and the medium through which our message is to be transmitted, in this connection. For an article in a lumber journal, we can presuppose the reader's interest and knowledge of lumbering; the reader of a farm magazine may be assumed to know something about farming.

Of course, whenever we can inject some of the elements previously discussed, such as the unusual, mystery, or human interest, we widen the appeal of an article and intensify its interest.

WE NEED THESE IN U. S.

On the downtown streets of Vienna, attached to the light poles and those which support the trolley wires, are iron box-like containers for the holding of paper and trash. A burned match, a cigarette butt or cigar stub dropped into the gutters usually brings immediate arrest and fine. A second or third offense means a jail sentence, and as a result it is only the ignorant visitor who makes the mistake of tossing anything into the street. Signs direct one to the receptacle for cigarette butts, etc. - District 6.

TREE PLANTERS CONFERENCE

By Fred R. Johnson, D. 2.

A meeting of Extension Foresters and those interested in the distribution of trees under the Clarke-McNary Law was held in North Dakota from July 9 to 13. Representatives were present from the States of North and South Dakota, Nebraska, Kansas, Colorado, Wyoming, and Montana. Messrs. Peters and Hastings from the Washington Office, Cunningham of District 1 and Johnson of District 2 represented the Forest Service. Mr. Norman Ross, Superintendent of the Indianhead Station in Saskatchewan, and Mr. Leslie, Director of the Experiment Station at Mordan, Manitoba, were especially invited guests at the meeting.

The group, which numbered about twenty-five, assembled at Bottineau where the State Forest School and Nursery are located. Trips were made to typical farm woodlots in that locality, the one of most interest being a white spruce plantation on which forest conditions now prevail. This plantation was established about twenty-five years ago. A trip was also made to Lake Metigosi on the Canadian border and an island in the lake was visited on which elms, birches and ashes two feet in diameter and better are growing. This area has not been disturbed by fire. A trip was then made overland through muddy roads to Mandan, a good many farm woodlots being visited enroute. A half day was spent in going over the numerous experimental plots in the Northern Great Plains Field Station. One hundred and twenty-six species have been tried out since the Experiment Station was established fourteen years ago.

Addresses were made by Mr. J. G. Peters on the Federal viewpoint of the operation of the Clarke-McNary Law and this subject was treated from a State viewpoint by Mr. W. L. Quayle, Director of the Experiment Substations of the University of Wyoming.

Nursery and planting practices and the cultural requirements of trees were discussed, and it was the feeling of the entire group that the need for cultivating before and after planting is the most essential element for success in the Plains region.

Mr. George Marshall of the Arlington Nursery of Lexington, Nebraska, was present as a delegate from the American Association of Nurserymen. He stated that the Commercial Nurserymen of Nebraska feel that a stimulation of business has resulted since the distribution of trees by the State for farm windbreak planting has been started in Nebraska. He was heartily in favor of this activity. A discordant note was struck, however, by Mr. George Will of the Oscar F. Will Nursery Company of Bismark, North Dakota, who represented the Northwest Nurserymen's Association. Mr. Will stated that where free distribution is practiced on a small scale for demonstration purposes as in North Dakota, the nurserymen are not opposed, but they would fight any effort in North Dakota of the State to sell or distribute free trees to every farmer who wishes to plant a windbreak. Personally Mr. Will was not opposed to the distribution but was voicing the sentiment of his Association.

The various civic organizations of Bottineau and Mandan provided luncheons for the tree planters, and the entire program was of great interest and help to the men present. It is believed to be the best meeting of its kind ever held in the Plains region. Great credit is due to State Forester F. E. Cobb of North Dakota and Robert Wilson, in charge of Arboriculture at the Northern Great Plains Field Station, for handling the arrangements so effectively. The papers and discussions are being mimeographed for distribution to those interested in these activities.

YE EDITOR DISCOVERS

With one man in four of the technical staff in the field, the Forest Products Laboratory is carrying on more investigations outside its own walls this summer than it has for some years past. Twenty members of the staff have been detailed to studies in forests and sawmills from the Appalachian region to the Pacific Northwest. Some of the men were out for a few weeks only. Others have been away from Madison, Wisconsin, headquarters for several months. The increased amount of field work has been occasioned largely by the efforts being made to get fundamental lumber moisture data, and by the increasing tendency of laboratory studies to dovetail with management problems on the National Forests. The National Lumber Manufacturers Association, through its trade extension organization, is cooperating with the laboratory in the moisture content study.

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Letter received in the Office of Forest Experiment Stations:

"If you have a remedy on 'How to Get Rid of Mosquitoes' in the form of pamphlets, then kindly send me a big supply. I'll take the trouble to distribute them myself."

RANGE MANAGEMENT COMMANDMENTS

By D. A. Shoemaker, D. 3.

1. Stock conservatively.

2. Protect sod grasses during their summer growing season.

3. Utilize bunch grasses when they are green and succulent.

4. Do not graze bunch grasses until after they have made 6 to 8 inches new growth.

5. Put salt where the feed is.

6. Keep salt on the range only during the time that feed shall be utilized.

7. Never have salt on an area where the forage is over-utilized.

8. Close permanent water during the time temporary water is available on those parts of the range that are remote from permanent water.

9. Move salt from ranges reached from permanent water onto ranges reached from temporary water during periods temporary water is available.

10. If there is any surplus feed or if new range is made available be sure it is not needed to relieve over-used parts of the range before you consider putting on more stock.

11. Don't overgraze as a means of reducing fire hazards.

> In the administration of the forest reserves it must be clearly borne in mind that all land is to be devoted to its most productive use for the permanent good of the whole people. * * * Where conflicting interests must be reconciled, the question will always be decided from the standpoint of the greatest good of the greatest number in the long run.
>
> James Wilson, Secretary of Agriculture
>
> February 1, 1905

Service Bulletin

Contents Confidential

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MORE REMINISCENCES OF "THEN AND NOW"

By Theo. Shoemaker, D. 1.

Mr. Kirkpatrick's article, "Then and Now", in the August 8 Bulletin has no doubt turned the minds of many old timers back to the so-called crudity of the early days of the Service. I am reminded that coincident with Kirkpatrick's entry into the Service (April 1, 1908), I was called in by the Supervisor of the Old Wet Mountains and San Isabel Forests who informed me that because of the broad experience gained in 4-½ months on ranger districts, I must take his place for three months while he answered an official summons to far-off Washington. He left early the next day.

The personnel of these two Forests consisted of the Supervisor and six district rangers. There was no clerk, no extra ranger, no technically trained man in any capacity. Incidentally there was no D. O., and all correspondence was with the Washington Office. Those were the days when long hours and close application to the job took the place of training, efficiency, simplified office procedure, and short-cuts of all kinds. All transactions, even free-use permits, were sent to the Supervisor's office, recorded on cards and filed; all correspondence, filing, record, accounts and report work was actually done by one man, and that man was the Supervisor, who was also charged with and actually performed the field inspection of his Forest.

I was but slightly familiar with the typewriter and office procedure, or with the Use Book, then sole and untried guide to Service policies in dealing with a recalcitrant public. For me it was work from 7:00 A.M. to 11:00 P.M., seven days of the week, with the betting odds in favor of my being snowed under before the three months were up. It was the season for acting on grazing applications with its consequent issuance of notices of approval, letters of transmittal and permits, and for closing up accounts for the fiscal year and allotment of funds for the ensuing year. But like Kirkpatrick, and in spite of the fact that the salary was $1100 and you had to stake your own horses to hay and oats, I liked it. The job looked good; it was interesting and extremely instructive, and there was no thought of complaining.

I am reminded, too, that it was a very dry June that year, and that about 10:00 o'clock one hot, windy day, near the end of the then current fiscal year's troublous affairs, a man came in and called my attention to the fact that the Forest was burning. When I stepped to the door of our little one-room office and saw the smoke rolling up to heaven twelve miles away on the side of the Sangre de Christo Range and in front of a Colorado gale, I felt more incompetent for what was ahead of me than I have ever felt about any other job before or since. The fire must have been burning some time. We had no lookouts and no understanding with any one about reporting or suppressing fires. We had no tools or equipment of any kind. The ranger of the district was 40 miles away with no telephone connections. He was not traveling by auto. There was, in fact, none in use in the region. I had never been close to a forest fire, much less had I had any instructions as to how to go about fighting one.

The account of what I thought and what I did is too long to give here. It must suffice to say that at daylight the next morning a tired, soot-blackened crew of a dozen men were partaking of breakfast, including hot coffee, on a little stream at one side of the fire, and that a trench had been constructed which, under careful patrol during the ensuing hot, windy days, held the fire to less than 80 acres. The livery stables had done a good business and the local hardware stock was entirely depleted of shovels, axes and lanterns. The grub list, put up by the local grocer entirely of his own selection, and the mess equipment, almost nil, compared but poorly with those put out by Central Purchase at the present time, but they got us through. Twice during the afternoon we almost lost our lives trying to check the head of the fire, but we learned and we learned fast, and the elapsed time between discovery and attack, or between attack and control, is seldom bettered even in this day of ultra preparedness. This is not said in any way to reflect on present performance. We do the job now and we did it then, because it has always been the spirit of the men of the Service to do the job; only then we did it under immensely greater handicaps.

When I step into one of our roomy, well-equipped, well-manned Forest offices to-day and when I contemplate our strength in the field in lookouts, smokechasers, crew-men, equipment, training, etc., I realize that we have come a long way. I have not Kirkpatrick's enviable record of long service on the same job, nor the opportunity that affords of direct comparison, but that first fire, besides teaching me much about a number of things, showed me that the people were, even then, ready to help. I have relied on them many times since and have never been disappointed. In that, I sometimes wonder whether there is so much difference between "Then" and "Now".

SALES TENDENCIES DURING FISCAL YEAR 1928

By Harry Irion, Washington

Everything considered the Service more than held its own in straight sales business last fiscal year. At the end of the third quarter, with the lowest quarterly total during the last six years, the prospect for an increase in sales receipts over 1927 was far from bright. But the fourth quarter came through in fine style, breaking all previous timber receipts records by returning a total of $1,137,866.79. This final spurt enabled 1928 to win by at least a nose over 1927.

In comparing commercial and cost sales in 1928 with the previous year (Tables 1 and 2) it was found that the former showed no decided upward trend for the Service as a whole, although Districts 3, 4, and 5 came through with very positive gains. The gain in timber revenue amounted to 2.1 per cent and that in cut slightly under one per cent. On the other hand, the contract value of the timber cut in sales was almost 3 per cent less than in 1927.

Table 3 contains three Forests, the Sitgreaves, Shasta, and Cascade, which were not in the "$50,000 or better" group in 1927. Four Forests which were in the 1927 group failed to break through in 1928. Altogether, fifteen Forests in 1928 exceeded $50,000 in timber sale receipts as compared with seventeen for the preceding year. Eight exceeded $100,000 each, six of which topped $200,000, and three $250,000. The largest producer was the Olympic with $294,854.38. This select group included in Table 3 runs true to form in furnishing about 70 per cent of the total receipts and cut under sales.

A detailed summary by Districts is given in the three following tables.

Table 1. - Amount and contract value of timber cut under commercial and cost sales, and receipts from timber sales and timber settlement during fiscal year ending June 30, 1928.

District	Amt. Cut M feet B.M.	Contract Value	Receipts from Timber Sales and Settlement
1	114,106	$435,763.02	$ 440,231.33
2	105,106	312,860.41	346,044.39
3	84,792	218,210.92	180,036.49
4	55,490	116,990.57	114,930.02
5	315,980	939,005.85	957,639.47 (a)
6	400,933	960,700.09	1,004,230.32
7	49,393	151,866.10	200,235.42 (b)
8	44,784	73,424.40	70,878.06
Total	1,170,584	3,208,821.36	3,314,225.50
Increase or decrease over 1927	+9,260	- 97,551.74	+ 66,656.02

(a) Includes $600.00 from turpentine sales.
(b) " $15,384.98 " " "

Table 2. - - Per cent of increase or decrease in timber receipts and cut during fiscal year 1928 as compared with fiscal year 1927.

District	Per cent of Gain or Loss in Timber Receipts	Per cent of Gain or Loss in Timber Cut
1	+ 9.3	+ 4.4
2	+ 6.0	+ .3
3	+ 21.5	+ 50.9
4	+ 33.0	+ 21.2
5	+ 21.0	+ 10.3
6	- 9.0	- 10.4
7	- 16.6	- 3.7
8	- 52.5	- 25.3
All Districts	+ 2.1	+ .8

Table 3. – Forests with timber receipts or value of timber cut in excess of $50,000 during the fiscal year 1928, and the leading timber revenue-producing Forests in Districts 4 and 7.

District	Forest	Timber Receipts	Amount Cut M Bd. Ft.	Contract Value
1	Coeur d'Alene	$ 250,380.36	37,484	$ 233,794.51
	Kaniksu	65,572.05	28,414	90,732.45
2	Harney	88,403.10	23,823	83,750.35
3	Coconino	73,778.11	27,434	75,177.08
	Sitgreaves	47,980.42	25,914	64,100.09
4	Payette	36,145.60	10,372	31,617.47
	Targhee	26,174.40	14,263	32,218.14
5	Lassen	182,132.06	54,860	196,986.72
	Plumas	216,070.88	77,314	205,093.02
	Shasta	53,274.22	16,702	48,743.27
	Sierra	214,522.73	79,366	207,819.00
	Stanislaus	240,084.83	70,667	238,285.91
6	Cascade	57,811.62	31,329	58,559.27
	Crater	262,871.35	52,670	240,242.34
	Deschutes	100,959.80	28,343	84,920.53
	Olympic	294,854.38	142,463	281,924.85
	Snoqualmie	77,109.71	36.999	74,988.99
7	White Mountain	27,318.78	5.669	27,159.89
8	Tongass	62,834.88	38,864	63,116.56
	Total	2,378,279.28	802,950	2,339,230.44
Per cent Total for all Forests		71.8	68.6	72.9

MISS PEYTON RETIRES

By J. G. Peters

With the voluntary retirement of Miss Jeannie S. Peyton, on September 3, the Forest Service has lost one of its most valuable employees, and one who will be sincerely missed in the Washington office.

Miss Peyton came to the Forest Service from the Land Office in 1905 and since 1908 has been engaged in the compilation of State forestry laws. This compilation has really been her child. No matter what developments it may encounter in the future, it has had an important place in the progress of the forestry movement for the past two decades and it will always remain as a work of accuracy, effectiveness, and helpfulness. The effort which Miss Peyton put forth alone during so many years will furnish the guiding light for her successors, and if their achievement approaches hers they may count themselves fortunate.

To be associated with Miss Peyton was a privilege and one that I greatly enjoyed. Her patience, her steadily maintained point of view of a good forester, and her rare good humor were a tremendous help to all in the office, for they served mightily to keep up that esprit de corps which is a source of pride and satisfaction to us all.

In appreciation of the splendid work done by Miss Peyton, the Forester has written her as follows:

"On the eve of your retirement, I write to express the grateful appreciation of the Forest Service for the fine work you have done so loyally and effectively for so many years. It is pleasant to recall that you have been with the Service since its very inception; and it is a great satisfaction to us, as it must be a source of pride and gratification to you, that you have been able to give to the cause of forestry an individual contribution of singular excellence and value. Your compilation of forest legislation in the United States is a monument of patience, accuracy, knowledge, and insight, and has been a factor of great helpfulness in the advancement of forestry. Though it is in the nature of things a work that can never be completed, you have laid the solid foundations on which it will go forward.

"Now that you are leaving, please let me express, in behalf of your associates, our wish that you will enjoy your well-earned rest from the labor of all these arduous years and that you will derive satisfaction from the memory of your long association with us as we here shall have the pleasantest remembrances of you and continued interest in your welfare."

SWEDISH RECTOR BECOMES A BOTANICAL AUTHORITY

On a recent trip to Oregon, Rev. Dr. Sven Johan Enander, Swedish Scientist and Rector of Lillherrdal parish discovered just below the snow line on Mt. Rainier a species of willow, the Salix Hastala, common in Sweden, Siberia, and one or two other countries, but never before found in America.

The research for willows is a hobby of Dr. Enander. Forty-five years ago he discovered that nobody had made a special study of willows as a botanical family. He then began the study of willows and is now a world-famed botanist and holds a king's commission to travel the globe. King Gustav of Sweden allotted him 37,500 crowns for his present research, which is taking him all over the world.

If there is no war, Dr. Enander, who is 81 years old, says that he intends traversing China by railroad to Tibet, crossing India to Bagdad and thence through the desert to Damascus with an idea to passing next Christmas in Jerusalem. He will make his way to Constantinople, hop off by plane for Stockholm, and return to his home and parish and the site of his beloved laboratories in Lillherrdal.

In sending this item to the Bulletin the Forester suggests that this instance of a Swedish rector becoming a scientist of international reputation is an illustration of the fact that there is opportunity for everyone, and cites the case of Dr. J. T. Rothrock as an inspiring parallel in the field of forestry.

SANS MEN

By Emma Hyatt Morton, D. 6

A "fire eater's" job wouldn't look attractive to the average woman, but when the call comes that a fire has broken out and there is no man to answer the summons, she is mighty liable to step into the breach and "strut her stuff".

Women did all the work in connection with at least one fire on the Deschutes Forest this summer, which occurred in the Metolius River country.

Mrs. J. F. Wiley, a camper, discovered the blaze and telephoned the Allingham Ranger Station. Fireman Brown was away, but Mrs. Brown, who was right on the job, immediately armed herself with emergency fire fighting tools, cranked her car, and drove to the scene of the fire three miles away. In just four minutes she had it under control, and hastened back to the ranger station to see if she could locate any evidence in the way of a record of a fire permit which might help to fasten the blame on the party responsible for setting the fire. No permit had been issued, so she returned to the scene of the blaze.

The records show that Mrs. Brown reached the fire at 10:56 A.M., had it under control at 11:00 A.M., and was still on the scene at 12 noon, when a Forest officer arrived to check up her work.

WHAT AND WHY IS NEWS

By C. E. Randall, Washington

Imparting news interest to uninteresting matters. The question has been raised as to how matter of a dry, uninteresting sort, which we might want to give to the public, can be spiced up in such a way that it will carry reader interest. We will have much material that appears pretty dull on the face of it. We might want to stress the desirability of a new piece of forestry legislation, for example, or reiterate the well-known message that fire prevention pays.

The way to do it is to tie our message to something that does have news interest. If we study our material closely we shall probably see possibilities for bringing out in connection with it some element of news that will give it wider appeal. These elements have already been discussed -they include: the extraordinary or unusual, struggle or controversy, romance or sentimentality, mystery, adventure, human interest, appeal of children, interest in animals, interest in prominent persons, places or things. Here is where we can use our ingenuity in putting some of these elements of appeal into our message.

Suppose it is a new piece of forestry legislation that we want to push. We might bring in the element of the unusual by emphasizing the fact that it will be the first forestry legislation ever enacted in that State, that it is progressing farther in forestry legislation than any other State, that it will bring about a radical change in forestry practice, or by stressing any other elements in it that show a departure from the ordinary. We might bring in the element of struggle by emphasizing the fact that the new legislation represents a major stroke in the battle against fire and other destructive agencies. The element of sentimentality might be emphasized by pointing out that the new legislation is an attempt to preserve the beauties of nature, or to save the struggling little trees from destruction by the scourging flames. Little bits of human interest might be picked up in connection with the proposed legislation - we might tell how some settler has been playing a losing game against fire because of inadequate protection, or how some man had come out for the new bill when his mistaken idea that he would be compelled by law to plant his prize potato patch to jack pine had been corrected. Other incidents of human interest might be found in the experiences of those campaigning for the bill, or by citing parts of humorous or pathetic letters that come in in connection with it. We might bring in the appeal of children by telling how some small boy had led a vigorous campaign in his community for the proposed legislation, or how the opportunities for outdoor life for the kiddies will be increased. The appeal of animals might be used by telling how wild life will be protected under the new laws. We can make use of the interest in prominent places by informing the public how some well-known point of scenic attraction or historical interest will be preserved and protected by the new legislation. We can use the interest in prominent persons by quoting the opinions of well-known individuals concerning the legislation, or by using their names in other ways in connection with it.

Then we can reach special groups by appealing to their economic interests or to their hobbies - we can show how the farmer will profit by the new legislation, or the sportsman will have more sport.

We can use any or all of these elements of news interest to carry our message - perhaps playing it up from various angles in a whole series of articles.

RECORD RAIN ON THE NEBRASKA

The rainfall during the month of July, recorded at the Bessey Nursery on the Nebraska Forest, totaled 8.06 inches. According to the weather records on file covering a period of 26 years, the nearest approach to this record was in April, 1905, when 6.71 inches of rain fell. The excess precipitation during the month resulted in considerable damage in the nursery.

There was a destructive hail storm July 11, but the damage to the nursery stock was decreased by standing water of considerable depth; in many sections of the nursery the water completely covered the trees. This acted as a cushion in protecting them from hail injury.

YE EDITOR DISCOVERS

This year the Michigan District Kiwanis contributed $9,700 to cover the expense of planting about 4,000,000 trees on 5,000 acres of land on the Huron National Forest in Michigan. This is a noteworthy piece of cooperation by an outside organization in helping the Forest Service to plant up denuded areas on the National Forests. The plantation is near East Tawas, Michigan, where on September 21 and 22 a dedication meeting will be held at which the Forester will speak. Plans are now being made by the Michigan Kiwanis for the financing of 5,000 acres next year.

A similar project has been carried out by the boys of the Order of DeMolay in the State of Washington. In 1927 the planting of 85 acres with 57,000 Douglas fir trees was financed from contributions made by the boys of the Order. This year 55 acres more were planted with 38,000 trees. These plantings took place on the Columbia National Forest. The Order plans to continue this work from year to year, assessing 10 per cent per member against the Chapter dues to carry it on.

In both these plantings the stock and the labor was furnished by the Forest Service while the cooperating organization contributed funds to cover the cost of the operation.

The advisability of revoking a grazing preference on account of an attempt to defraud the United States Government, even though the offense was committed against a branch of the Federal Government other than the Forest Service, was involved in a case recently submitted to the Forester from District 3.

In this case, the grazing permittees had obtained a loan from the War Finance Corporation secured by a mortgage on their ranches and stock. Subsequently, a semi-cooperative loan company took over the obligations of its members to the War Finance Corporation. This company went into bankruptcy and a receiver was appointed to take over its assets and obligations. The permittees in question were obliged under the terms of the mortgage contract to pay all operating expenses, including grazing fees, and to render the receiver a full account of all receipts from the sale of mortgaged stock. This they failed to do, and the receiver petitioned to have the mortgage foreclosed. In the meantime, the permittees had failed to pay their grazing fees, and the District Forester requested them to show cause why their preference should not be revoked because of fraud against the United States. The District Forester contended that since the War Finance Corporation, a Federal institution, held the assets of the defunct loan company and since the mortgage was made originally to the War Finance Corporation, violation of the terms of the mortgage constituted fraud against the United States.

The Forester sustained the District Forester in this contention and authorized him, in case the stock and land were sold in accordance with the court decree under foreclosure proceedings, to approve the application of any purchaser to graze stock on the range heretofore used by the permittees against whom the action was brought. The Forester advised that the permittees be allowed to retain any portion of their preference remaining after their obligations to the United States have been satisfied.

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Fire expenditures during the last ten days of August aggregated $181,110. The largest amounts were reported by Districts 1, 5, and 6, District 5 far in the lead with $113,000, District 6 following with $31,500, and District 1 with $29,500. The situation in District 5 continues to be serious. Special reports by wire in the last week indicate that fires are burning in many parts of the State. The report received this morning (Sept. 6), however, says that all fires are under control.

"BEEN LUCKY THIS YEAR"

By John McLaren, D. 1

Did you ever hear a Forest officer make the above remark? And haven't you heard it frequently from some friendly person outside the Service in years when no large acreages were burned and no spectacular fires occurred?

Did you believe it or on sober thought did it not seem that preparation, organization, cooperation, and snappy action were after all the vital factors, rather than favorable weather conditions.

I question if we should make use of the word "lucky" in connection with fire control, and when it is used by outsiders a presentation of facts nearly always causes surprise. Where it is possible to point out that action on the part of an individual or a group of individuals saved a bad situation, he begins to look at the matter in a different light and becomes a convert to the idea that "A changed public attitude" is playing a big role.

In the administration of the forest reserves it must be clearly borne in mind that all land is to be devoted to its most productive use for the permanent good of the whole people. * * * Where conflicting interests must be reconciled, the question will always be decided from the standpoint of the greatest good of the greatest number in the long run.

James Wilson, Secretary of Agriculture
February 1, 1905

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REAL RAILROAD FIRE COOPERATION

By C. B. McFarland, Cascade

The Southern Pacific Railroad built a new line in 1926 across the Cascade Forest in Oregon. Both during construction and since, the Forest Service has received splendid cooperation from the company and its individual employees. Before the 1926 fire season and shortly after the railroad was taken over from the construction department, actual cooperation was begun between the Forest Service and officials of the Southern Pacific Company.

The railroad runs through the Cascade Forest for a distance of fifty-seven miles. Oil is the only fuel used. To date, only four fires have originated along the right-of-way. Action, in every case, has been prompt and effective and only a few square feet have been burned over.

In April, 1926, a conference was held at Oakridge. Representatives of the Forest Service, E. L. King (Division Superintendent), Chief Division Locomotive Engineer, Chief Division Civil Engineer, Chief of the Water Service, Train Master and Road Master, and Mr. Neal of the Oakridge division, were present at this conference. It was agreed:

First: That the Forest Service employees were to have the use of the Southern Pacific telephone lines paralleling the company's railroad and connected to telephone booths which are located at the different railway stations. No booths would be farther apart than six miles, the average distance between booths being approximately three miles.

Second: To maintain three one-man motor car patrols, three velocipede patrols and four foot patrols.

Third: To maintain water tank, 6,500 gal. capacity, with 500 feet of $1\frac{3}{4}$ water hose, stationed at Fields; one of the same capacity with 500 feet of $1\frac{3}{4}$ water hose, stationed at McCredie Springs; and one 12,500 gal. capacity with 750 feet of $1\frac{3}{4}$" hose, stationed at Oakridge. In addition to hose, each fire car to be equipped with six shovels, two axes, one crosscut saw and three Stillson wrenches and to be inspected daily by an employee of the company and twice each month by a Forest officer. The railroad company also agreed to build fire lines along the edge of the railroad right-of-way where any special hazard, such as dead vegetation or excessive wind throws, existed.

At this time, the question of sanding flues and proper method of handling the risk was discussed. It was thought that a designated place could be marked for sanding, but this practice was not satisfactory. A device for spark control, called "splitter", was provided. It functions similarly to spark arresters, except that, instead of the sparks being suppressed or confined, they are thrown against a steel plate where most of them are extinguished. The hot and cold embers fall down and backward from the smoke stack, causing all refuse emitted from the smoke stack to fall between or very close to the rails. There is no question, in my opinion, but that it is a very valuable device.

This plan of cooperation has grown, until the fire plan presented by the Southern Pacific Company this year is one of which the largest operator cutting timber on National Forests, could justly be proud.

On the plan is indicated the following: At each railroad station, water, whether gravity or under pressure, or no water; telephone booth; whether or not headquarters for patrolmen; whether motor car, velocipede or foot patrolmen; signal maintainer; telegraph lineman; section foreman, and whether eight, sixteen, or twenty-four hours operator service. The location of every man is indicated, as well as bridges equipped with water barrels and fire buckets and all Southern Pacific patrol fire extinguishers and other tools that could be included in fire suppression work.

The company has purchased three sling psychrometers to be used at different points along the railroad within the Cascade National Forest, from which readings are taken at 8 a.m., 12 M., and 5 p.m. each day during the fire season. Fire season opens when the patrolmen are placed. The company is notified by a Forest officer when the patrol is to begin and when it is to be discontinued. Their patrolmen are sent to the guard training camp. Approximately thirty-five miles of line, forty inches wide, has been built parallel to the railroad track at the edge of the right-of-way, at a cost of two cents per linear foot.

E. L. King, Division Superintendent, does not confine his cooperation in fire suppression to the right-of-way. The last paragraph of Roadmaster J. D. Russell's letter which accompanied his fire plan and is representative of the company's spirit, is as follows:

"Should you desire any other information or have any further suggestions to offer, I would appreciate hearing from you at an early date, and I want to take this opportunity to assure you of my fullest cooperation during the coming fire season, and ask that you do not hesitate at any time to call my attention to any conditions that should be corrected or make any suggestions for the improvement of our fire protection organization."

THE TEACHABLE AGE

Condensed from the Survey Graphic (April '28)
From a study by E. L. Thorndike

"In general, nobody under 45 years of age should restrain himself from trying to learn anything because of a fear that he is too old to learn it. Nor should he use that fear as an excuse for not learning anything which he ought to learn. If he fails in learning it, inability due directly to age will very rarely, if ever, be the reason."

Thus in the final chapter of his forthcoming book E. L. Thorndike, professor of psychology at Teachers' College, Columbia University, sums up the evidence of the first extensive inquiry as to whether infancy, childhood, and adolescence have an advantage over the adult years in the ability to learn.

In this inquiry Professor Thorndike and his associates conducted three extensive series of experiments covering long periods of learning. One concerned learning to read, write, compute, and form certain simple habits in the case of adult prisoners. A second concerned the learning of typical high school subjects, such as algebra, English, civics, and biology by adult pupils in public evening high schools. The third reported the learning of typewriting and stenography by adults in secretarial schools. The investigation also included intensive experiments in learning to write with the left hand, to typewrite, and to understand the artificial language Esperanto.

"In general the testimony indicates: that almost anything is learnable at any time up to 50; that, in general, age seems to influence the power of intellectual acquisition very much less than it influences motor skill; that the difficulty expected in learning at late age is in part due to sensitiveness to ridicule and undesired attention.

"These facts seem to show that adults learn much less than they might, partly because they underestimate their power of learning, and partly because of unpleasant attention and comment; also the adults learn less than they might because they do not care enough about learning."

In tracing the age-changes in learning ability, Professor Thorndike calls particular attention to inner growth or development. "We can assert that the factor of inner growth favors adults in comparison with children. Unless it is counterbalanced by factors acting in the opposite direction, inner growth gives the person from 25 to 45 as good an ability to learn as he had from 20 to 25, a better ability than he had from 15 to 20, and a much better ability than he had from 5 to 15."

Disuse - the failure to keep on learning - decreases the ability to learn. "If a man ceased at 30 to learn, he would tend gradually to lose such gains in ability to learn as he had acquired at school or by other training."

"On the whole, the facts about age changes in general justify a rather vigorous skepticism concerning inner degeneration as the sole cause for the drop in learning from 22 to 45. Disuse has substantial claims to recognition. The decline is then not only small in amount; but is in part avoidable by the simple expedient of continuing to learn.

"The decline from the acme of ability to learn (located probably at some point between 20 to 25) to about 42 is only about 15 per cent for a representative group of abilities; also the ages 25 to 45 are superior to childhood, and equal or superior to early adolescence (14-18) in general ability to learn.

"Such few age differences as do appear in the capacity to learn are usually explainable as the products of special experiences. All conclusions point to the fact that the general laws of learning are substantially the same from the age of 15 to 50."

A NEW PETRIFIED FOREST

Twenty miles northwest of Magdalena, New Mexico, and a short distance north of the Hook Ranch, in the head of a small but rough canyon, a real petrified forest is to be found. Many of the logs have been broken up and scattered over the ground, but in one small area great sections of the trees still remain. One log 25 or 30 feet long and three to four feet in diameter is the largest. Another large log has been broken into short sections four or five feet long and these have been rolled out so that the big log has the appearance of having been sawed into sections. The rings of the trees are plainly visible and one can tell how fast or how slow the trees grew. How far back into time these trees take us is unknown. One can only gaze on the ancient remains of these one time forest giants and ponder on the centuries that must have elapsed between the time when they fell and the time when nature again uncovered them. The forest, while not possessing the grandeur of the great Petrified Forest in Arizona is still worth seeing, especially since it is so near to Magdalena. To find this forest, take the road northwest to the Hook Ranch, and walk about a quarter of a mile northwest of the ranch to the west side of the head of a rough "breaks" forming the head of a canyon draining north. - District 3.

WHAT IS "TIMBER LINE"?

By Will C. Barnes

My article about rattlesnakes in the Forest Worker of May, 1928, in which I spoke of their being found "high above timber line" brought me a lot of letters from our field men.

Mostly they questioned the statement. However when pinned down to what "timber line" really meant several to whom I've written have replied that in the Rocky Mountain regions between 9,500 and 10,000 feet is about the average of timber line. Well I killed two rattlers around 10,000 feet in New Mexico. It was above "timber line" too. Two of the writers told of killing rattlers close to the 9,000 foot level. Probably I should have said "close to timber line" and let each reader fix his own elevation. Now then, why not have some records of this matter. Wont some of you who have killed rattlers at high elevations give us the information? It will be valuable data to those interested in this subject. Also, why not start a symposium as to just what is meant by "timber line"? Are there any available data on this point? If not, let's collect some. Timber line in the Sierras may not be timber line in the Rockies.

WAYCROSS FOREST FAIR

The Forest Fair to be held at Waycross, Georgia, September 19-22 is the first State Forest Fair ever held in the United States. It is sponsored by the Georgia Forestry Department in cooperation with the Waycross and Ware County Chamber of Commerce. Some 25 manufacturers of naval stores and wood-working equipment and a number of timber companies, naval stores operators, and others, will have exhibits in place, showing naval stores and woods implements, forest products, game, recreation, fire control, etc., and giving demonstrations of turpentine stills, wood saws, portable saw mills, stump pullers, tractors and equipment in fire break construction, rakes, fire torches, and pumpers.

The Forest Service is to have two booths, one showing the old wasteful method of turpentining and the improved method and the other dealing with fire in the cutover pine lands of the South and its effect on woodland pastures. In addition to the two booths, the Forest Service will lend several motion pictures on various phases of forestry, including the films: "The Green Barrier", "Pines, from Seed to Saw Mill", and "Dual Purpose Trees." The program will include talks by a number of Forest Service officers, including an address by Assistant Forester J. G. Peters on "Why Federal Interest in State Forestry"; an address on "Our Forests" by H. N. Wheeler; and a talk on pulping southern woods by Mark W. Bray of the Forest Products Laboratory.

IF YOU LOVE A TREE

If you love a tree, we are brothers!
All over the world, there are others
Who love many things; azure sea,
Or a robin-redbreast, or a bee
That's drowsing above the white clover.
There are lovers always, the world over.

But lovers of trees stand apart,
For trees strike down deep in the heart.
A man or a dog, we may help without end,
But a tree, living beauty, is ours to defend.
If you love a tree, in your heart is a shrine,
For the love of a tree is a love half divine.
From "The Shield", published by Levey Printing Co., Indianapolis.

D-6 AIR PATROL

By Geo. E. Griffith, D.6

Airplane patrol for 1928 in the North Pacific District is on a commercial basis, instead of the cooperative patrol with the Army planes formerly used. Two contracts were let, one for Oregon and one for Washington.

The successful bidder on the Oregon contract was the Mackenzie-Morrow Aviation Company of Portland, with Lt. Arthur Mackenzie (Air Reserve) as pilot. This company furnishes an american Eagle 2-passenger bi-plane, equipped with 180 h. p. Hispano-Suiza motor. The plane has been used for several days on the recent big Umatilla fire in Eastern Oregon.

In Washington, the contract was awarded to the Washington Aeronautical Corporation of Tacoma. This company has a Stearman 2-passenger bi-plane, a Buhl 2-passenger training plane and a Buhl 4-passenger air sedan. Capt. W. J. Chamberlin (Air Reserves) of O. A. C., is stationed at the Tacoma base as observer. One flight was made over the recent Mount Baker fires, and a second attempted flight abandoned at Bellingham on account of weather conditions.

"IT'S ALL HUMIDITY"

By J. H. Billingslea, Siskiyou

A precision hygrometer has been purchased for the Grants Pass, Oregon, fire department by the city council. Many of the fire alarms during the summer are occasioned by grass fires in vacant lots, which sometimes spread to buildings. The hygrometer will also enable the fire chief to issue burning permits with a greater degree of safety, since an ordinance requires that the dry grass be burned and the fire chief is required to issue the necessary authority. Favorable action on the part of the city council was brought about by the efforts of the Forestry and Fire Prevention Committee of the local Chamber of Commerce.

WHY AND WHAT IS NEWS

By C. E. Randall, Washington

News Writing. To present all the elements that go to make up news writing technique would be a large order. Large volumes have been written on the subject, and their total wordage would be insignificant beside the volume of words that has been fired at young cubs in many a city room.

There are, however, a few points which might well be brought to attention. For the ordinary, "straight news story" it is agreed that a simple, declarative, straightforward style is the best. Whenever this can be enlivened by a neat expression, a touch of humor, or the like, so much the better.

It is almost axiomatic among the newspaper men that the public is "dumber than anyone". Ordinarily, a pre-knowledge of any subject on the part of the public cannot be taken for granted. It is therefore necessary to present our subject with simplicity and clarity, in terms easily understandable by our reading public. It is further necessary to explain everything that cannot be assumed to be common knowledge for everyone above the fourth grade.

It will be noted that the newspapers do just this. An individual is rarely mentioned without his title, business, or some other qualifying description; a new development in any line of interest is seldom reported without a brief sketch of what led up to it. Obviously, it is necessary for us to explain any technical terms or any specialized methods or practices we might mention in our stories. It might even be advantageous for us to explain or define the word "forestry" more frequently than we do. Such explanations usually can be given in a very few words without destroying the continuity of our story. For instance, we might mention forestry in some appropriate connection, something like this: "The Booger Holler City Council today voted unanimously to take steps for the practice of forestry, or management of the woods to produce a never-failing supply of timber, on the lands owned by the city."

Probably it is well known that the most important part of a news story is the "lead" or first paragraph. The lead is generally designed to tell the essential points of the whole story in a nutshell - to answer the questions: who? what? where? how? when? and perhaps why? An example, not necessarily perfect, might be:

"Fire, caused by a discarded cigarette butt, broke out in the second-growth timber along the north fork of Bright River this morning and is being fought by a crew of 20 men. I. C. Badly, Prim City merchant, who tossed the burning cigarette into the brush, is under arrest."

This answers the essential questions and tells the main story. The remainder of the story will be merely an amplification of details or a mention of additional less important facts. Even within the lead itself, it is well to mention the most important points first. Thus a lead rarely begins with the time, such as "At 10 o'clock yesterday morning, Ranger Smith discovered ---", or with a name, unless that name is well-known or important.

It is well to write as good a lead as possible for two reasons: first, the lead is the only part of the story the editor is apt to read with any great care, and his decision whether or not to use the story will probably be based on what he sees in the first paragraph; second, if the story takes more space than he wants to give it, the editor will shorten it by the simple expedient of chopping off the last paragraph or two. Thus, if the choice tidbits in a story are saved for the end, they may wind up by reposing calmly in the waste-basket while the less important material is flaunted in print before the public eye.

In this connection, it might be noted that the shorter a story, the better chance it has at the newspaper editors' desk, generally speaking. There are exceptions, but it is always well to be brief and to the point.

Of the many faults in news writing which call forth an editor's curse, probably the one responsible for the greatest number of explosions at the copy desk is the "editorial statement." A news story is supposed to present facts, not opinions; and any statement which has the appearance of expressing the writer's personal opinion raises an editor's back hair. Editorial statements might be something like these: "The no-smoking rule is the best thing that ever happened for the National Forests of this State" or "The organization of a citizens' fire protection association will be a good move in safeguarding our forests." While these statements might be true, the writer is editorializing when he says so on his own authority.

Newsmen usually get around the editorial statement by crediting it to some other authority, tangible or intangible. They may even go so far as to credit Dame Rumor. We see frequently in the daily prints such phrases as "according to observers in Washington," "in the opinion of those close to officialdom", "it is generally believed that", or "it is rumored that". The political writers are particularly handy with such phrases. When we want to make a statement of opinion, however, we can usually credit it to some Forest officer, or to the Forest Service generally. If we say "The organization of a citizens' fire protection association will be a good move, etc. ......, says Supervisor ______ of the Such-and-such National Forest," we remove the editorial stigma.

Editorializing is permissible, of course, in a signed article.

YE EDITOR DISCOVERS

A new fire pump for use in the woods has been designed by Ralph L. Morgan of Fitzwilliam Depot, New Hampshire. Morgan is an enthusiastic tree-planter and forest protectionist as well as a mechanical engineer. In designing his pump, therefore, he has brought to bear on the problem first-hand experience in both lines of work and has produced a piece of fire equipment that is light and efficient and carefully planned so as to avoid the drawbacks usually found in commercial pumps. Some of the things Morgan had encountered in his experience with other pumps and that he determined to avoid in his own were "hot boxes, hard starting, close-fitted pumps that grind out when grit and sand get into them, lack of power, and small amounts of water delivered per minute."

As finally perfected the Morgan pump weighs 350 pounds, is 5 feet long over all, 20¾ inches wide, and 32 inches high from the ground. It is mounted on white ash runners. The pump is of the centrifugal type with 3/16 inch clearance, which permits the pumping of sandy or muddy water without injury. It has a capacity of 250 gallons a minute. Four 1½ inch outlets are provided. The maximum pressure is 180 pounds. Fine steel and duralumin are used extensively to give strength, reliability, and lightness to the machine. Further details in regard to specifications can be obtained from the Niagara Motors Corporation, Dunkirk, N. Y.

The fourth International Congress of Entomologists, held at Cornell University August 12-18, was the first one in which a forest entomological section was organized. Recommendations were also made to the central committee that in all future meetings hereafter there should be a forest entomological section.

The average attendance based upon the number present at the beginning of each paper was 35, with as high as 80 present at one session. A number of foresters were present in addition to entomologists. Foreign entomologists who participated actively in the sessions were: Dr. Charles Hose of the British Empire Forestry Association; Dr. Uunio Saalas, Finland; Prof. M. M. Rimsky-Korsakov, Russia; Dr. H. A. Eidemann, Germany; and Dr. I. Tragargh, Sweden.

BURNED OUT AND ITS EFFECT

By C. H. Park, Olympic

Camp #3 of the Polsen Company, within the Olympic Forest, had a disastrous fire in June. Nearly the whole of the camp was lost, many of the men losing everything except the clothes on their backs. The scaler's cabin at Camp #2 also had a close shave from fire, which caught in the roof from a spark, and it was necessary to chop out a portion of the roof before the flames could be put out. These accidents have been the cause of making the camps much safer from fires, with ladders, fire buckets, and a plentiful supply of water for each building placed handy for instant use.

And so when Robert Polsen of the company studied the fire prevention contract requirements of his timber sale with the Forest Service, he came to the conclusion that what was good fire prevention tactics for the Government was good for his logging company's camps; so now all his logging donkeys are equipped the same whether or not they are operating on Government timber.

Then, when Supervisor Plumb and District Ranger Fulton were welcome and interested visitors at the logging sale on May 17, the foreman of Camp #2 gravely informed them that it would be necessary for them to go into the scaler's cabin if they wished to smoke the inevitable cigarette.

SOVIET CONDEMNS USE OF CHRISTMAS TREES

The children of Moscow were this year forbidden to have Christmas trees. The Society for the Defense of Nature is lamenting the destruction of young fir trees "that make our valleys beautiful for such useless purposes." The Society reminded the police that the Moscow Soviet has passed a law forbidding the sale of Christmas trees. This is in strong contrast with the large number that will be used in America, and interesting because it comes from the region of Europe where the Scotch Pine, often called fir, occurs in large numbers over great areas. Service Letter - Penn. Dept. of Forests & Waters.

> In the administration of the forest reserves it must be clearly borne in mind that all land is to be devoted to its most productive use for the permanent good of the whole people. * * * Where conflicting interests must be reconciled, the question will always be decided from the standpoint of the greatest good of the greatest number in the long run.
>
> James Wilson, Secretary of Agriculture
>
> February 1, 1905

Service Bulletin

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A. P. DISPATCH

By Howard R. Flint, D. 1.

On my return from a busy season away from headquarters, I note that the Service Bulletin for July 23 carries an item borrowed from the ubiquitous Associated Press in regard to a forced landing made by Pilot Rose and myself while on aerial forest patrol. The A. P. is a good old institution. It is no doubt popular demand which impels it to emphasize speed and the spectacular above strict accuracy.

It is true that Rose and Flint were forced down. They were not out of gasoline. They had used only about one hour's supply out of enough for six hours' flying. The proximate cause of the untimely landing was later proved to have been a defective timing gear assembly in an up-to-date new motor which had functioned perfectly for about 30 hours. On failure of the timer, the motor stopped dead, without warning, over one of the St. Joe old burns bristling with standing dead timber, the relics of a heavy white pine-hemlock stand.

The dispatch says the plane was damaged. A brand-new $3500 plane, it is so far demolished that it will remain where it fell. The motor - a $5,000 machine - the instruments, and a few trimmings only were worth packing out. The contractor's profits for the season crashed with the plane.

It is true too, as the dispatch states, that wild animals abound in the region. Spectacular stuff. Rose says one of the first things he really noticed on recovering consciousness after the crash was a bristling, fierce pine squirrel vilifying the wreck from a near-by windfall. Sleeping a little later than Rose, I didn't hear that squirrel, but I distinctly recall seeing several squirrels on the trip out to the railroad. They sure were wild; otherwise, we should probably have caught and eaten them for we were without food for about 24 hours - a horrible feature overlooked by the A. P.

Both men wore good parachutes and there was ample time and opportunity to have escaped via the parachute route. That alternative was considered. Parachute landings in a fairly dense stand of 100 to 150 foot snags 10 miles from nowhere in rough country are not enticing. A brush covered mountain side a mile or two away, most of the snags down, appeared just a shade better. After an extremely brief ocular and manual, not oral, argument there was mutual agreement to stick together and ride the good ship down into the relatively snag-free patch. We hadn't too much altitude for so long a glide. At the edge of the opening and 75 to 100 feet from the ground, we failed by about 5 feet to clear a big snag. Both the right hand wings - it was a biplane - parted clean from the fuselage and landed directly. We crashed in from there and woke up a while later sitting in the sun. About five hours were spent in recuperation on two canteens of water and lots of sunshine - no moonshine. After that, it was just jungle navigation and hard work until we reached a telegraph station 27 hours after the timer quit.

Although badly bruised and shaken up, neither man was seriously injured by the wild animals and both were in the air again within 3 or 4 days for the rest of the season's work without further mishap.

SIX FORESTS WITH A GOLDEN TOUCH

By Harry Irion, Washington

In 1915, receipts for timber cut under all National Forest sales amounted to $1,167,189. Thirteen years later an examination of receipts figures shows that the Stanislaus Forest alone has during the last five years collected more money from timber purchasers than the entire Service did in 1915. The Carter during the same period also exceeded $1,000,000 in sales receipts, while the Lassen lacked only $106.62 and the Coeur d'Alene slightly more than $16,000 of reaching the million mark. These Forests, together with the Plumas and Olympic, produced nearly $6,000,000 in timber revenue in the five-year period, and average for the period of $1.00 per acre or 20 cents per acre annually. If all of the National Forests combined annually averaged even 5 cents per acre, or one quarter the amount returned by this selected group, our timber revenues would aggregate nearly $8,000,000, as compared with $3,314,000 last year.

The receipts figures and value of the cut for these six outstanding Forests during the fiscal year 1924-1928, inclusive, are as follows:

	Receipts from timber sales and settlement (5-year period)	Value of timber cut under sales (5-year period)	Average receipts per acre (5-year period)
Stanislaus	$1,214,368.36	$1,235,357.79	$1.48
Crater	1,066,881.31	1,061,477.41	1.24
Lassen	999,893.38	982,179.11	1.06
Coeur d'Alene	983,568.16	963,129.01	1.48
Plumas	833,453.65	816,156.54	.75
Olympic	819,281.96	791,389.88	.54
Total	$5,917,446.82	$5,849,689.74	Av. $1.00

CEDAR RUST

By D. F. McGowan, Washington

Of interest to the forester is the recent case of Miller v. Schoene (276 U.S. 272) in which the Supreme Court of the United States upholds the Virginia statute which "provides, compulsorily, for the cutting down of red cedar trees within two miles of any apple orchard when found upon official investigation to be the source or 'host plant' of the communicable plant disease called cedar rust and to 'constitute a menace to the health of any apple orchard in said locality'. The owner is allowed a judicial review of the order of the State Entomologist directing such cutting and may use the trees when cut, but no compensation is allowed him for their value standing or for decrease in market value of the realty caused by their destruction. The evidence shows that the life cycle of the parasite has two phases, passed alternately on the cedar and the apple; that it is without effect on the value of the cedar, but destructive of the leaves and fruit of the apple; that it is communicable by spores from the cedar to the apple over a radius of at least two miles; that the only practicable method of controlling it is destruction of all red cedar trees within that distance of apple orchards; and that the economic value of cedars in Virginia is small as compared with that of the apple orchards."

"When forced to make the choice, the State does not exceed its constitutional powers by deciding upon the destruction of one class of property in order to save another which, in the judgment of the legislature, is of greater value to the public."

DISTRICT SEVEN PLAYS HOST

District Forester Kelly is back from the White Mountain National Forest where on August 30, 31, and September 1, he and Supervisor Yarnall and District Rangers Spinney, Hale, and Brown played host, on a "show me trip" to representatives of the Forestry Schools of Mt. Alto, Penn State, Syracuse, Cornell, Yale, Maine, Purdue, and the Agricultural College of Connecticut. State Forester, R. M. Ross of Vermont, Superintendent of Forest and Lands, Wm. Howard of New York, State Forester J. H. Foster of New Hampshire and H. O. Cook, representing the Department of Conservation of Massachusetts, Dr. Boyce, Ed. Munns, Mr. Westfeld, Mr. Stickel, Dr. Spaulding and Mr. Wheaton of the Northeastern Experiment Station were also members of the party. As a matter of fact, the members of the Experimental Station contributed much to the conduct of the tour. The party, composed of some thirty odd members, spent three busy days looking into various phases of the administration of the Forest and listening to the local officers tell all about it.

The personnel policy of District 7 and the place of the Junior Forester in the organization came up as subject for considerable discussion. As nearly as possible to appraise the reaction of the group, - its endorsement of the idea that every man must prove himself to be worthy of his hire and that the Forest Schools are anxious to qualify men to that end was more than apparent.

Various members of the party expressed the hope that this occasion might be only the beginning of similar trips over the national system by school representatives. Arrangements are now under way for members of the faculty of Purdue, Yale, and Minnesota to make a trip to the Ouachita Forest next June.

WHEN IS A FIRE

By E. H. MacDaniels, D. 6.

G. E. Whitcomb, lookout on Green Peter, in the Linn County, Oregon, Fire Patrol Association unit, has for some time been working on a scheme to enable lookouts to tell what is a fire and what is something else. There are times in the grand old State of Oregon, when fog looks so much like smoke that the best that can be done is to make a guess and turn in the suspect as a fire. This often makes the smoke chaser's feet sore and his heart bad. If, on the other hand, we insist that the suspicious-looking smoke is only a little fog that will soon evaporate and this is not the case the results are even worse.

Mr. Whitcomb has experimented with different colors of glass until he has found a shade of green through which fog is visible and smoke much less so. He is not yet satisfied with his colors and is still working at it; but it seems probable that he has found something valuable.

WHAT AND WHY IS NEWS?

By C. E. Randall, Washington

Types of News Stories. As everyone knows, news stories are not always of the same type. While the bulk of the news copy found in any newspaper is of the "straight news" type, - informative stories which aim to present the facts of the news as simply, concisely, and directly as possible - some space is usually devoted to feature stories, editorial specialties, "shorts", and the like. Even the straight news stories are of several varieties. Interviews, sports stories, and society reports, for instance, all have a special technique.

The matter of form and style of the straight news story has already been briefly discussed. Ordinarily, it is a straightforward, simple presentation of the news matter concerned, with the gist of the news and the most important points given first.

Often the possibilities of a piece of news are not completely exhausted by the first story written concerning it. Causes, results, and significant phases frequently cannot be ascertained when the first story is written. New facts sometimes develop from day to day, or from hour to hour. Then the "follow-up" story comes in.

Examples of the "follow-up" story are to be seen in any sizeable newspaper. The first story, for instance, might have told of an accident; a "follow-up" next day tells of the condition of the victim as he lies in the hospital. The first story might have told of the arrest of an incendiary; a follow-up tells when he will be brought to trial. Some of the different directions in which a story may be followed up are: causes and motives other than those given in the first story if these are uncertain or inadequate; results and consequences of the first piece of news; interviews with prominent or authoritative persons in regard to the event and its significance.

In writing the lead of a follow-up story, as many of the essential elements of the first story must be given as are necessary to make the new details intelligible to those who did not read the first story, and to recall the main facts to the minds of those who did read it. Aside from this, however, the lead must play up the new elements in the news, relegating those which have become ancient history to the background.

In every daily print, and particularly in the Sunday editions, we find examples of the special feature article. Such a story is informative in nature but need not be based upon immediate or "spot" news. It may even delve into history or abstract scientific theory, but often a feature article may be given timeliness by connecting it with such events as the opening of the hunting season, Christmas or some other holiday, the exodus to the summer resorts, or a bad fire season. It is not to be assumed, however, that the feature story cannot concern current news. In the news columns there is room for only a comparatively short announcement of such events as a new scientific development, the destruction of a landmark, the death of a well-known character, or the results of an investigation. Often such events may be treated in more detail in an informative article or "feature story". The field for subjects for feature articles is as wide as the field of knowledge. It includes the "how-to-do-something" article, the personal experience story, the historical article, the popular science story, and many others.

The technique of the special feature article is largely that of exposition, narrative, or description, or a combination of these, which was drilled into us by our English Composition teachers in school days. It is important, however, that such an article be easy to read - not too heavy. It is also important that there be an effective beginning, to catch and hold the reader's attention. Well begun is half done in this case. Some of the forms of beginnings most frequently used are: a striking statement; a question; a direct address to the reader; a summary lead like that of a news story; or an incident in narrative-descriptive form. A feature article on the work of a Forest Ranger, for instance, might have any one of these beginnings, such as:

"A Forest Ranger almost has to be in a dozen places at once."

"What would you do if a lightning storm started eight forest fires at one time on your property?"

"To fight a fire, stretch a telephone line, lay out a camp ground, cruise a stand of timber, survey a summer home site, and scale a few thousand feet of logs - these are just a few of the jobs in the days work of a Forest Ranger."

"Right in the middle of the trail, and showing no disposition to move, stood a big Mama Bear, as District Forest Ranger John Doe started up Strawberry Canyon for a forest fire that had just been reported."

No matter how skilled is the make-up man on a newspaper, when the type has been put into the page form there is likely to remain here and there little empty spaces. To fill these the newspaper usually keeps on hand a galley of "shorts" and "fillers" - little terse, pithy bits of information or quotations not more than a sentence or two in length. A number of syndicates and feature services supply these to newspapers in volume, but many a paper is often glad to get more. If the local editor wants them, small bits of forestry information might find their way to print as fillers.

FEEDING TREES

By John D. Jones, D. 3

Looking over a timber sale area recently on the Santa Fe National Forest, Junior Forester C. W. Simmons was attracted by the unusual growth made by a small western yellow pine tree. The tree had attained, in 120 years, a diameter of 12½ inches inside bark at stump, 3.2 inches of this diameter, however, as shown by the annual growth rings, had occurred during the last 10 years. What had caused the tree to grow almost as much wood in the last 10 years as during the preceding 110 years was well worth looking into. The answer was not hard to find. The acceleration of 560 per cent, it was found, was due to artificial fertilization. About ten feet distant, and on higher ground from the tree stump, stood a cow shed from which the fertilizer came which enabled the tree to make such phenomenal growth. By further investigation it was also ascertained that the shed was built about 10 years ago which exactly coincided with the rapid growth period of the tree.

Decaying forest litter, humus, is Nature's method of supplying and replenishing soil fertility and any agency, such as fire or erosion, which destroys this effort is harmful to the future timber crop.

A section of the log has been sent to the District Forest headquarters at Albuquerque for record purposes.

PLANS AND PLANS

By G. E. Mitchell, Chelan

A few years ago the word "Plans" reacted on most of us in a manner similar to a spark in a quantity of powder, but gradually we have worked into the plan business until, to some of us at least, a plan is almost essential. An illustration of how it works is in the fact that through the influence of Forest officers in the Okanogan County Game Association its work is being put on a plan basis.

A big job we have up for the season of 1928 is to make a Fish Plan. This is being conducted through local associations at the request of the county association. A survey will be made of all waters suitable for fish within the county. The results of this survey will be embodied in a plan which will be recommended to the County Game Commission for future handling as to planting, kinds to be planted, and the closing of various waters.

The county organization was formulated a little over one year ago, and thier first job was to establish deer preserves throughout the county. The job was completed last summer in time to make the preserve effective the last hunting season, and the entire county is quite enthusiastic over the results being obtained from these preserves. It is anticipated that the fish plan will be completed this year in time to be available for use next spring.

On June 17, the county association put on a barbecue picinc at Conconully, which was attended by a crowd of 1500 people. The barbecue was prepared by an old-time cook and trapper, and the affair was considered a success from all angles.

THE FIGHTING FORESTER

"The Fighting Forester," first of a series of 12 pictures written around the U. S. Forest Service, has been completed at Universal City under the direction of Joseph Levigard, according to an announcement by Carl Laemmle, president of Universal Pictures Corporation. - D. 5 News Letter.

TOO MANY BOATS MISSED

In searching out young stands of timber for yield study among the islands of Southeastern Alaska it sometimes becomes necessary to inquire among the occasional settlers for information. In following the directions of a lone settler to "be sure to stop at Mary Island", where he knew of large areas of second growth, we went dubiously ashore to interview a gentleman who appeared to be inhabiting a shack on that island of swamps and muskegs.

He reclined on a soap box with his elbow on a sack of flour and his feet on a camp stove.

"Good morning," I said, "working hard?"

"Reading is part of my vocation," he returned, setting down the Youths Companion, "I collect specimens of birds, animals, and other botanical subjects. But you are young and do not know that hemlock sinks, - or do you? Ah well, come and see my garden. I could grow anything here on this limestone formation. It is colloidal in nature and contains gold in solution! I intend to cultivate the Gentian yonder, (pointing at some salmonberry bushes) and later I may ship yellow cedar to Japan. I know where there are dense stands of this valuable tree and all one need do is get a Japanese ship to come here." (then confidentially) "But you know I am often in such a state of innocuous desuetude!"

At this I let go all holts and took off for the skiff. R.F.T., District 8.

EX-RANGERS VALUABLE FOREST RESIDENTS

Our grateful appreciation goes out to certain ex-Forest men here on the Lincoln. When we realize that their public spiritedness has entailed a great sacrifice of personal affairs, words are inadequate ever to compensate them. On the recent White Mountain fire former Ranger J. A. Brubaker rendered valuable services in organizing crews and transportation. John Mims left his store and showed up with a crew and remained all night. Afterwards he took charge of two other fires. Former Ranger Bert Pfingsten organized and brought up a crew, telling us we could depend on him as long as he was needed. Former Ranger Chas. Pepper, Lookoutman on the Tucson Lookout, found his activities considerably broadened when informed that he could take care of the White Mountain District while Ranger Lee Beall was on fire suppression. We had all confidence that he could do it too. (Lincoln Bulletin)

STILL PAYING DIVIDENDS

During the American Forest Week Campaign in 1926, a meeting was held at Chamita with moving pictures and slides for the first time, states Perl Charles in the Santa Fe Bulletin. The people were quite interested and among them one Juan Lopez was particularly so, asking for information on various subjects before and after the meeting. On May 21 of this year, this same Juan Lopez found a fire in the Valle Grande and stayed with it two days until he could get it out. He handled the fire himself, missed a meal or two, and as the nearest Forest officer was at least 25 miles away, he helped out quite a bit. I think this is good evidence of returns on PR work. - District 3.

YE EDITOR DISCOVERS

In the settlement of the disbursing account of the District Fiscal Agent at Albuquerque for the December 31, 1927, quarter, the Comptroller General disallowed several salary payments for the reason that the appointment order issued by the Secretary was not signed until after the date of entry upon duty of the appointee. This action of the Comptroller General was predicated on the fact that the Secretary was without authority to delegate his appointing powers. Under date of August 28 the Department filed an appeal with the Comptroller General pointing out the difficulties which would ensue in the Forest Service because of the decentralized nature of our organization were the ruling strictly enforced. The comptroller affirmed his earlier decision on September 19, advising in view of present law that the Secretary must by necessity issue all appointment orders including original appointments, reinstatements, promotion, demotion, etc. on or before the date such orders become effective. The effect of the Comptroller General's interpretation of the law is now being considered in the Department, and it is probable that a bill will be introduced when Congress convenes looking to the restoration of the appointment policy which has been in effect for many years.

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The reports on duties and compensation of jobs in private employment which are comparable to various Forest Service jobs are coming in steadily, and it is believed that the information will be of the greatest importance in connection with reclassification of field jobs. Excellent work in gathering this information is being done by men scattered all over the National Forests.

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A month or more ago the Supreme Court rendered a decision to the effect that the Federal Government is without authority to pay State gasoline tax for any gasoline used in Government owned automobiles. Heretofore it has been customary to pay the tax in those States where the so-called dealer's tax applied. In States where the tax fell directly upon the consumer, it has not been the policy of the Government to pay the tax item included in gasoline bills. While the decision is wholly desirable from the Government standpoint, it is causing more or less difficulty in the purchase of gasoline in those States where the tax is assessed by State law against the dealers or distributors. Several of the States have taken the position that they are without authority to waive the payment of tax in favor of the Government until their legislators convene and amend the State law in accord with the Supreme Court decision. In some States it will be a year or more before this will be effected, and in the meantime inconvenience and possible delay may be experienced in procuring gasoline. The situation, however, is only temporary and applies only to a limited number of States. It is expected that within a reasonable time the entire matter will be adjusted by enactments by the State legislatures concerned.

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The Department of Agriculture is one of the greatest distributors of information in the world. Last year the Division of Information of the Department sent out 33,716,481 pieces of printed matter. This is an increase of more than 6,000,000 publications over the distribution of the year before. Material sent out from the Division filled more than 4,000 mail bags. New publications printed by the Department during the year totaled 1370 titles and more than 32,000,000 copies.

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NORMAL GRAZING COSTS

By E. W. Loveridge, Washington

A review of the F. Y. 1927 cost figures for several representative Forests in District 4 indicates that the net cost of grazing administration on ranger districts, i. e. the time and expenses of the rangers and guards on grazing, is 90 per cent of the "direct costs" for this activity as shown on the photostat prints sent out from Washington. The other 10 per cent is made up of direct charges by the Supervisor and other members of the overhead.

It also shows that the "indirect" charges on the Forests, exclusive of all D.O. items, increase the G costs some 90 per cent over the charges made by the rangers and guards.

This material may be used in comparing "normal," - proper - costs, as set up in the ranger district analyses, against the past costs shown on the cost data sheets.

Thus, from Part 2 of an analysis made by the Supervisor, the Ranger, and an A.D.F. well versed in grazing, of a ranger district on which some 4000 stock, mostly sheep converted to a cattle basis, are grazed for the summer period, it was found that exclusive of duplicate travel 41 days is the proper time to devote to range management on that district. At $7.00 a day, this amounts to $287 as the net normal grazing costs for this particular administrative unit. This in turn equals 7¼ cents a head.

For comparison with the above, the cost data from Form 34 show $150.25, plus travel expenses, charged to all range management activities by the Ranger during the F. Y. 1927. This equals 23 days and a unit cost per head of 4-1/3 cents. The average for the Forest for the same period was 12.6 cents, minus 10 per cent charged direct by the Forest overhead to G, or 11-1/3 cents.

Compared with a normal cost of $287, or 7¼ cents per head, the above mentioned $150, or 4-1/3 cents per head, indicates that too little attention was given to G on this district during the 1927 period. A field examination found that to be the case, and justified increasing the grazing costs to the so-called normal figure.

That the Forest cost per head, 11-1/3 cents, was greater than the normal unit cost, 7¼ cents, for one of the adjacent ranger districts, further suggests that too much attention was being devoted to range management on the other districts. As is likely to be the case in all high cost problems on the Forests, three courses were available for correcting this situation:

(1) Devoting more time to the work of the other branches. This would not help the situation much, as only a small amount of additional time, if any, was needed to have them handled within the proper standards.

(2) Devoting more time to development work. This too would not lower the G costs materially, as all of the development projects, to which time should reasonably be given, were included in the time set-ups on which the normal costs are based.

(3) Consolidating districts. This is the course which was followed last fall, and as it will make more work available per district on which time should properly be spent, lower average grazing costs on this Forest are pretty sure to follow.

PORTO RICO HURRICANE DAMAGES NATIONAL FOREST

By Evan W. Kelley, D. 7

The hurricane of September 13 which swept Porto Rico caused property and crop damage on the Island estimated at one hundred million dollars. The extent to which future crops are damaged is, of course, unknown. Practically all the urban population is homeless, the largest sufferers being the poorer people whose homes were poorly constructed. Large stores of food have been exposed to rain and are being spoiled. Starvation is impending in the interior, it is feared, according to word received from Acting Forest Supervisor William P. Kramer of the Luquillo National Forest. In a letter, written on September 17, he states that property damage at the Forest Service office and nursery approximates $3,500. This estimate does not include damage to the Forest itself. All communication with the interior of the Island is broken and travel is impossible due to landslides and falling trees.

Mr. Kramer reports that standing trees are completely defoliated, resembling the hardwoods of the north in the dead of winter. A peculiar circumstance is that many trees easily uprooted were snapped off at a height of five to twelve feet above the ground, a clean fracture being made in most instances.

As soon as possible Mr. Kramer expects to submit a complete report on the damage to the Luquillo Forest.

A FIRE PREVENTION DAY?

By Jno. D. Guthrie, D. 6.

How careful are we to check up regularly as to the danger of fire in our ranger stations, guard cabins, lookout cabins, bunk houses, storehouses, and other buildings? Is there any regularity or system to this check? Or do we, when and if we happen to think of it, take a casual look at the roof-jack, in the attic where the stove-pipe goes through, or at the wall back of the kitchen range, and decide that it needs fixing, and we'll do that, some rainy day. And then the net result is that it isn't done, until along come the right conditions, and all we have for our Station is a pile of smoldering ruins. During the year, I wonder how many ranger stations and other Service buildings are burned; it is a wonder that more are not reduced to ashes, - and everyone knows how hard it is these days to get Improvement money for such things.

We are pretty proud of our forest fire fighting ability; in fact, we are rather inclined to boast too much about it in the papers now and then, especially if we don't have many fires that year; if we do, then the season was "very exceptional". Why not try a little fire prevention right at home? It would pay. It would pay us individually, pay the Service, and pay as an example to our friends and neighbors, many of whom would realize that we really believe in fire prevention.

This job of fire prevention is one in which every Forest officer believes; there is no question about that. The trouble is to get that belief translated into action. Why not let's set apart one day in the year to check up on fire prevention measures around all of our buildings? What better day for that than October 8, the anniversary of the great Chicago fire of 1871?

The week around October 9 has been observed annually for many years by the Fire Underwriters and most cities as a City Fire Prevention Week. As a matter of fact, that's where we got our idea of an American Forest Week.

It doesn't matter whether the inspection of all Service buildings is done on that day or not, but let that day be the one out of all the year on which to make a record of such an inspection of every building in each National Forest, and let the results of that inspection be put down in black and white, and sent to someone who will follow it up to see that conditions that need remedying will be remedied. And put that day down on your calendars, in your Work Plans, as a red letter day.

What do you think of a Fire Prevention Day on October 8 for the Forest Service?

JAMES BLACKHALL

By John H. Hatton, D. 2.

Again the grim reaper has visited District 2, bringing personal and official sorrow to all of us. Jimmie Blackhall as we instinctively learned to call him and love him answered the call on Sunday morning, September 16, and I'm sure he answered it with the same fortitude, patriotism and soldierly mien that he did the call to arms in the Philippine insurrection or any call that has come to him in private or public life.

It was characteristic of Supervisor Blackhall to respect orders, to be thoughtful of others, and to carry out the dictates of his splendid character and training. His devotion to his aged mother through many years has been the admiration of all who have known them; and it was a devotion without ostentation - one of deeds, not of words and outward show. I have made many field trips with Jimmie and I have always remembered with inspiration and fresh resolves his thought for her as he left upon his various field duties. I don't know how better to express his fine character as a son, friend, citizen, or public s official than thus to mention the mother and the son.

Supervisor Blackhall died in the line of duty. on Monday September 10, the lookout on Medicine Bow Peak reported a fire near Pearl on the Hayden Forest. He had not been well but he insisted on accompanying Ranger Wadleigh. To get to the fire it was necessary to leave the car and walk 3 miles. That night it snowed and became very cold. He got chilled through and with wet feet suffered from exposure. He complained of abdominal pains and was taken to a hospital in Rawlins. The chill and exposure are reported by the doctors to have brought on an acute condition of intestinal toxic poisoning which resulted in his death Sunday morning.

Supervisor Blackhall was the most widely known Forest officer in southern Wyoming and northern Colorado, and a pioneer in Forest administration. In the early days of the Service he was Ranger in Charge covering what is part of the Colorado, Medicine Bow, and Hayden Forests. He became Supervisor of the Hayden Forest in 1908, which position he held until his death.

His effective administration of this Forest and his rehabilitation of the range from a dust bed to a condition of sustained forage yield, his wise counsel and leadership in the earlier days of cattle and sheep controversies, and the favor which he has built up for the National Forest idea will always stand as monuments to his ability, character, and judgement.

IT'S THE CLIMATE

By Robert D. Maclay, Olympic.

Found a Douglas fir tree producing cones and growing four months after it was wind-thrown and bucked!

The writer in company with E. J. Hanzlik, located a Douglas fir tree on the Polson Sale Area in the Olympic National Forest that had been wind-thrown across the trail last winter, and was bucked within a few days of being wind-thrown in order to open the trail. The tree was exposed to full light and had no root connection whatsoever with the ground after being sawed. At the time the tree was noticed, June, 1928, the limbs still remaining on the trunk had green, live needles that showed normal spring-growth and a dozen or more cones. Some of the cones were well developed and contained seed that was nearly mature. The limbs and needles that had broken from the trunk at the time of wind-throw were dry and brittle with tight winter buds, showing that the growth of the needles and cones still attached to the trunk had occurred after the tree had fallen.

Some of the needles and cones were picked at the time the tree was located, but the biggest and thriftiest cones were left to develop. They were last examined alive July 12, and were growing in good shape and the needles were soft and pliable. Next day, July 13, a great fire swept part of the logged lands on this sale, leaving only the charred remains of this persistent Douglas fir.

The writer has noticed on many occasions that trees develop seed in abundance following an injury, and that a large seed crop often precedes the death of a tree, but an instance such as has just been described is believed to be unusual and worth recording. The reader can form his own opinion as to the reason for this unusual growth, but the writer is a member of the Olympic Forest, so says "It's the Climate".

PRINCIPIO FURNACE

By G. Luther Schnur, Allegheny For. Exp. Sta.

In recent sojourns for oak yield plots, in the territory of the Allegheny Forest Experiment Station, a veritable garden of plots was found in the vicinity of Principio Furnace, Maryland. In trying to find out the reason for these unusually good stands of even-aged timber, the following interesting bit of history was found concerning the old iron furnace.

In 1722 a company was formed in England and the old Principio Furnace was erected at the head of Chesapeake Bay on Principio Creek. The location was very advantageous because it was near tide water, the main transportation route in the early days, and on the Fall Line where water power for the blowers was obtained. It was also in the vicinity of good ore, and the adjacent hills were covered with oak and chestnut, from which charcoal was obtained for the reduction of the ore.

Though not the first, this was the leading iron company in America for many years and played an important part in our history. At the time of the Revolution the Principio

Furnace came into American hands, and it furnished cannon and cannon balls for the Continental Armies both during this war and the War of 1812. During the latter, Cocburn destroyed the furnace and it was not put into operation again until 1836 when the present Whitaker Iron Company purchased the property. A hot-blast charcoal furnace was erected and operated until 1889. In 1884 a forge for making blooms was erected near the furnace and was in operation until the close of the World War in 1918. After the furnace ceased operations the blooms were made from scrap, but charcoal was used in the forage during the entire period.

During nearly 200 years the timber on these lands has been clear-cut again and again for charcoal and due to these cuttings and the long length of such management, there are at the present time, several thousand acres of even-aged practically fully-stocked hardwood stands, ranging between 10 and 60 years of age.

WHAT AND WHY IS NEWS?

By C. E. Randall, Washington

Cooperating with the newsmen: As in every other group of human beings, there are good newspaper men and bad ones, but, taken by and large, the newspaper men are a pretty good sort. They are probably about as trustworthy as any other group. Most newsmen, in fact, know a lot more than they ever tell.

A newspaper man may be a valuable friend or a dangerous enemy. He has in his hands a powerful weapon to work either for good or harm. Thus it is obviously the part of wisdom to maintain whenever possible friendly relations with the press. Forest Service men have no taste for bootlicking or any thing of that sort, but inasmuch as it is a Forest Service policy to go out of our way to give useful service to the public, there is no reason why such service should not be extended to the press. A newspaper reporter appreciates being treated with friendliness and consideration, and resents being shown a spirit of antagonism, just as much as anyone else does, even though his constant rubbing against the public tends to thicken his outer shell.

When it can be done it is often well to encourage the newspapers to include the local Forest Service office on the regular beat of one of their reporters. This strengthens your contact with the press and opens the way to gain a new and perhaps useful friend of the Service. Then, when your office is being regularly "covered" by a newsman, the thing to do is to make it worth his while. It is discouraging to a reporter to leave a place empty handed day after day. He soon begins to pass up such a place for more fruitful news sources. A reporter's standing with his editor is determined largely by the amount and value of the news he turns in. That is why he sometimes gets desperate and "manufactures" news. It is worth while making a special effort to think up or dig out news for him. If you talk over some of your local forestry problems and activities with him from time to time, he might often sense news values in them that you have overlooked Ask his advice on problems that will bear discussion outside the inner circle, such as, for instance, how can we get the people of this community to be more careful with their cigarettes. Looking at such problems from another angle, he may now and then be able to offer constructive suggestions - and in any event it will help to augment his interest and willingness to cooperate.

The sweet disposition of a newspaper man is not improved by being frequently told that we haven't anything right now but something important is coming up next week. The most important time in the newsman's life is today. Timeliness is an essential element of news. An event is news before it happens as well as after. It is news now, for instance, that such-and-such a report will be completed next week. If you are on safe ground in giving advance notice of an event or undertaking, why hold it back? It may be good for a whole series of stories, both before and after. As has already been mentioned, the possibilities of a piece of news are seldom exhausted in one story.

Some people seem to forget that the business of a newspaper man is writing. Because they haven't time to write up a piece of news themselves they withhold it. In such a case, why not let the reporter write it in the first instance. If it is not written in good newspaper form, he is apt to re-write it anyway. It takes comparatively little time to tell him the facts, or introduce him to the documents or reports concerned. There may be fear that the reporter will fill the story with inacuracies or distort the facts. If you give the reporter adequate details and make sure that he thoroughly understands them, he is not apt to do so. The average newspaper man tries to play fair. By looking at the piece of news from the news viewpoint as well as the Service angle, you can usually anticipate what elements in it will appeal to him as news. Or you can discuss its news possibilities with him in advance.

For the small town paper, however, it is usually necessary to write up most of the news yourself. On such a paper, the editor-in-chief is also all the reporters, the make-up man, and the rest of the staff. He is the one who sends himself out after a story and tells himself to hurry back. He is usually the busiest man in town. Unless a story is handed to him in written form he may never find time to write it. By talking things over with him, if you haven't already done so, you can determine the best methods of cooperation.

Newspaper men are used to being, and like to be, invited to things. When a forestry meeting is held, when a new lookout tower or forest nursery is dedicated, it might be worth while to invite representatives of the press. When a group of prominent citizens is taken through a Forest on a "show-me" trip, why not include some of the local newspaper men. Such things foster good will and stimulate interest on the part of the press, generally, and may often result in good publicity.

EROSION OF SOIL CAUSES ABANDONMENT OF SIX NEW MEXICO TOWNS

Six small towns and several ranches have been abandoned on the Rio Puerco in New Mexico because of the deepening of an arroyo, Prof. Kirk Bryan of Harvard University, formerly of Albuquerque, says in a monograph he has prepared. "The coincidence between the introduction of large numbers of stock and the cutting of arroyos indicates that overgrazing precipitated this form of destructive erosion," he says. "The ultimate cause, not completely discussed in this paper, appears to lie in cyclic fluctuations in climate." The cutting of the banks did not begin until between 1885 and 1890, he finds. El Palacio, School of American Research publication, adds this comment: "As there are quite a number of ancient ruins in the watershed of the Puerco and some of these are threatened with destruction by the caving of the banks of the Puerco and tributary streams, and similar conditions exist in other parts of the State, the publication of this paper eventually may lead to the protection of prehistoric sites thus threatened, or at least their study before they are completely obliterated." - District 3.

"OUT OF THE PAIL INTO THE FIRE"

By H. T. Phelps, Fremont

On June 8, while preparing to leave Lakeview, Oregon, on a field trip, I purchased some cooking equipment for one of the Ranger's road men. Among this equipment was a new tin pail, bright and shiny. The pail was thrown on top of a miscellaneous assortment of fire tools, bed roll, etc. in the car, an old Dodge without a top. I then drove to the Forest Service garage, leaving the car sitting outside in the sunshine.

While Supervisor Brown and I were in the garage, he noticed a small wreath of smoke curling up from my bed roll in the car. Upon investigation, we found a hole about the size of a half dollar burned in the bed roll to a depth of two inches. We were at a loss for some time to account for the cause of the fire. Supervisor Brown, upon finding the pail where I had thrown it while putting the fire out, and learning it had been placed on top of the load, suggested the pail might have reflected and focused the sun's rays on the bed roll and set it on fire. No other possible cause could be determined, and the nature of the burn, a small hole burned deeply into the bed roll, supports the theory.

We shall probably have to swear out a warrant for the Sun on a charge of maliciously setting a fire!

YE EDITOR DISCOVERS

One hundred and twelve stations, in 39 different States, will broadcast Department of Agriculture material during this winter's radio season, which opens October 1. The Forest Service will participate in several series of programs, including the Radio Farm Forum, which is a series of constructive talks on farming methods and improvements in farming practice; the Noon-Time Farm Flash series, short bits of information on farm procedure; and the Housekeeper's Chats. These programs will be prepared this year on a regional basis and those in which the Forest Service will take part will cover five regions - the northeastern States, the central States, the southern States, Great Plains region, and the Rocky Mountain and western States. The Forest Service programs will also be included in the "Outdoors with the Scientist" series and possibly in the "4-H Club Crier" series for young folks.

In addition to these regular Department radio programs a number of Forest Service specialists will make a personal appearance before the microphone this year in a series of Noon-Hour programs to be broadcast through the courtesy of the National Broadcasting Company and Montgomery Ward & Company. These will go on the air through a hook-up covering the central time zone and taking in most of the central, southern, and Great Plains States. The broadcasts will be made from the studio of WRC in Washington, D. C., and will be carried over a network of 16 stations. These are: KYW, Chicago; KDKA, Pittsburg; KSD or KWK, St. Louis; WHAS, Louisville; WSM, Nashville; WMC, Memphis; WSB, Atlanta; KVOO, Tulsa; WBAP, Ft. Worth; WOAI, San Antonio; WDAF, Kansas City; WOW, Omaha; WHO, Des Moines; WOC, Davenport; KOA, Denver; WCCO or WRHM, Minneapolis. W. R. Mattoon will open the Forest Service's part in this series with a talk on "Farm Woods A Savings Bank," in the latter part of October. In November, W. D. Brush will speak on "Finding Markets for Farm Timber" and Mrs. Lilian T. Conway will speak on "Forestry Activities for Women's Organizations." In December, J. G. Peters and C. E. Rachford will speak on "Cooperation in Forestry" and "Steaks and Chops from the National Forests."

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A sale of 399,855,000 feet, largely western yellow pine, known as the Badger Springs Unit on the Modoc National Forest in California, was recently awarded to the Pickering Lumber Company at a price of $2.25 per thousand for western yellow pine and 50¢ per thousand for white fir, incense cedar, and insect killed and dead western yellow pine. This sale was made primarily to control an insect infestation on National Forest lands and intermingled lands owned by the Pickering Lumber Company. The contract will provide for insect control measures on an area of at least 15,000 acres during the present year and 30,000 acres each succeeding year until the infestation is controlled. This insect control work is to be carried on both on Government and private lands. The contract, which will run until December 31, 1942, also provides for readjustment of stumpage prices every three years.

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Professor Ernst Gunther, Director of the Institute of Political and Land Economy at Giessen, Germany, visited the Office of Forest Experiment Stations last week. Dr. Gunther is making a trip of two months duration through the eastern part of the United States to study at first hand some of our economic and social problems. He is much interested in the interrelationship between forests and agriculture. Dr. Gunther will visit some of the eastern National Forests and research units of the Forest Service.

A READABLE BOOK ON GOVERNMENT FORESTRY

The story of how Government forest work has come about in the United States makes mighty good reading. It should make particularly good reading for all foresters and forest workers. When the story is told by one who brings to his writings an understanding of human motives, a sense of humor, and a considerable gift of style it becomes interesting to everyone who likes good reading whether he is "forest minded" or not. A recent publication of the Institute for Government Research entitled: "Development of Governmental Forest Control in the United States" by Jenks Cameron, is worth reading both for its scholarly account of the forestry movement and for its clear and entertaining method of presentation. In its 465 pages it covers all the high spots - and a good many less prominent but no less interesting ones - in our forest history from colonial times to the present day. As is perhaps inevitable in a book of this kind the emphasis is sometimes misplaced, and the reader needs to keep his eye peeled and his judgement awake as he reads. Nevertheless the book gives evidence of a desire on the author's part to be as fair and impartial as he can in his method of presenting the facts and to be unprejudiced in his judgment. The book provides an unusual mixture of information and entertainment and will return good dividends on the time necessary to read it. - L.C.E.

PLANTING IN MIXTURE

The value of having mixed stands of trees and of planting species in mixtures was forcibly brought home to Supervisor Krueger, who spent last winter in Europe. He states that he saw whole stands of pure Scotch pine destroyed by Panolis flammea schiff, whereas stands of mixed Scotch pine and Norway spruce were not touched by this insect. Wherever possible, European foresters are now introducing a mixture of species as a matter of protection. In places, this insect had destroyed several hundred acres of pure Scotch pine and left a mixed stand of an acre or so in the midst of it untouched. - District 2.

In the administration of the forest reserves it must be clearly borne in mind that all land is to be devoted to its most productive use for the permanent good of the whole people... Where conflicting interests must be reconciled, the question will always be decided from the standpoint of the greatest good of the greatest number in the long run.

James Wilson, Secretary of Agriculture
February 1, 1905

Service Bulletin

Contents Confidential

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THE CLOWN OF THE WOODS

By John H. Hatton, D. 2

"Hey - Hey - Back - Back -- A-oo -- A-ooo!"

I was standing on the veranda of the Woodrock Ranger Station in the Bighorn National Forest, Wyoming, when the clarion sound broke on my ears like the sharp, repeated bark of a Krag Jorgenson. I looked and there stood "Shorty", whose full title is F. M. Calvin, a competent sheep herder and a character well known and respected by all Bighorn Forest officials. His hands were funneled against his mouth and directed across the open spaces to the front of the station. Nearly half a mile in the distance a cloud of dust rose like magic. Beneath it were fifteen hundred ewes and their sturdy lambs, faced about as one and wildly scrambling into the adjacent woodlands. The rumbling of nearly 6,000 hoofs was like muffled distant thunder. They had crossed the deadline which separates their grazing grounds from an area reserved for campers and tourists. They knew full well their master's voice and the meaning of his sharp command. With the first two calls their heads rose in perfect unison from their feeding. With the second two they were in wild retreat, and with the softer more soothing notes of the last they seemed to sense they had done their master's bidding and resumed their grazing upon the luscious weeds and grasses.

Turning to me he said: "Do you know I like this woods allotment when you know how to handle it. My sheep are doing fine and I don't have any trouble from straying. It is a little rough in places among the windfalls and old logs, but the feed in the open timber is good and I am getting good weights on my lambs. A lot of sheep men don't like the timber but I have learned this allotment and I don't mind the timbered parts at all. (You have noted the personal interest expressed in the sheep, which spells the difference between a successful and an unsuccessful herder).

"Any trouble with bears and other varmints?" I inquired.

"Say, let me tell you something about bears. I'll admit a lynx cat will kill lambs. I have seen where they have killed lambs that were lying right beside their mothers. You've seen a mother ewe lying down back to back with her lamb, and I've known of these sneaking varmints actually killing the lamb and never waking its sleeping mother. But I'm a friend of the bears. They are the clowns of the woods, and I'm for protecting them. They are charged with a lot of crimes they don't commit. A cowpuncher once showed me where he said a bear had killed four big cows on a spot no bigger than this house. Now, no one can tell me that a bear will do a thing like that. Once in a while there is a killer, but no bear -- killer or not -- will do a thing like that. Whenever I hear of such incidents I put that puncher down right now as neglecting his business. Those cows were killed by some kind of poison weed and maybe the bears have eaten on the carcasses afterwards; but he's made the goat of the cowpuncher's neglect and laziness. Why, do you know I have had a black bear running with my sheep for four summers now and I haven't had a single loss? The sheep think no more about her than of my shepherd dogs. She just looks to them like a big black dog. Last year she had a cub and I saw them both among the sheep every few days. I saw their tracks nearly every day. This year she had another cub. (Something unusual for a bear to have young each year, you know) and now I have three of them -- the mother, her yearling, and this young cub. I have watched them closely as they tear the rotten logs apart in search of ants and grubs or chipmunks and mice, but never the loss of a sheep. Now mind you, I'm not telling this to all my friends down in the valley because some fool among them would be up here with a 30-30. These bears are my friends. I like to watch them and they're going to have every protection I can give them".

"Why do you call bears the clowns of the woods?" I asked.

"Because they are always pesticating around like some darned kids. I've sat on the rocks and watched their capers by the hour. I remember once a mother and two cubs. The cubs were standing on their hind legs and sparring playfully like a couple of boys when one hit the other a stinging side glance that made him mad all through just as you and I have felt when we were kids. They began sparring in earnest. Finally the one that got slapped got the other down and was mauling him unmercifully. The under-fellow began to squeal and cry and old mother bear comes over, pulls the top-fellow off and giving him a slap sent him tumbling. The other little fellow kept crying like a child and mother bear soothed and licked it just like a human mother would pet and kiss her injured child. The other little fellow was sore all through and humiliated from the punishment his mother had given him and kept running in at his mate for another scrap but the mother kept sending him away with a cuff or a growl until it looked to me just like he was saying to himself: 'Just you wait until I get you off alone and I'll give you something to squeal about.'

"Have you ever watched a bear catch a rock marmot?" he continued. "Sometimes a marmot will seek shelter under a loose flat rock and I have seen an old bear take one paw and lift up the rock and with the other paw smash the marmot flat with a single blow before it could get away, as quick as a cat would catch a mouse. The bears have furnished me many hours of pleasure and amusement with their funny and almost human antics as I have herded the sheep.

"Yes, I'm for conservation, and especially for conserving the bear."

WALNUT BURL SHIPPED ABROAD

On ranches on the Ruidoso and Bonito Creeks, within the borders of the Lincoln National Forest, Mr. Noel Insall has cut 201,000 pounds of walnut burl. This burl has been bought from the ranch owners for $3 or more per tree. With the exception of 10,000 pounds sold to the Pullman Company of Chicago, to be used for interior furnishings of Pullman cars, it has all been shipped to England and France. Of all the burl trees cut over a period of 25 years, in the States of New Mexico and Texas, by Mr. Insall, the Ruidoso District of the Lincoln National Forest has the honor of producing the largest walnut burl tree, this historic tree had 12,970 pounds of merchantable burl and 3,000 pounds of unmerchantable. It was an unusual tree in that the burl extended almost to the top and 8 feet in the ground on stump. It took five men nine days to cut it up and load on trucks. This old giant was probably a good sized seedling when Columbus first sighted America. - District 3.

JUDGING OUR PAST DEEDS

By Fred Winn, D. 3

One of the most interesting incidents of life in the Forest Service is to be able to visit other Forests, and especially those in which one has spent considerable time in past years. As an example, the writer (while on leave) recently went over a timber sale area on the Apache, which was cut-over about 1915, or thirteen years ago. Criticism was directed towards this sale at the time that: (1) the marking was too heavy and (2) that it was not heavy enough. This, on the part of the District office members. Marking was done by a marking-board consisting of the writer, a former Ranger now in private work in Missouri, and another Ranger who is now a Forest Supervisor in Oregon. The brush was not burned. In 1928 the reproduction is coming in fine and the seed trees and those needed to prevent wind-fall which were left, appear to be just in the right proportion. The sale, it might be added is adjacent in part to a heavily used (at this time) public road, but in the days when the sale was in operation this road was just an ordinary wagon road, knee-deep in mud when it rained or snowed. The fact that the road might become a scenic route in the future was considered at the time marking occurred and has been amply justified. One sale area the writer would like to visit and study is that on the San Mateo division of the Datil which was marked and administered 20 years ago. Some valuable data as to growth and restocking could be secured, especially as fire has been kept out for the past twenty years. It seems we might have some inter-Forest visiting of this sort which would amply repay for the time and money expended, especially as many of us have now been in the Service for a long period of years and hence can furnish accurate data as to time and place.

LORD NELSON AS A FORESTER

E. N. Munns, Washington

Until the time of the famous naval battle between the Monitor and the Merrimac, ships were made of wood, and the nation with plenty of oak behind it maintained the mastery of the sea. Thus England for many years was able to hold her domination of the seas. Lord Nelson, the famous British Admiral, became greatly interested in the oak question when timbers needed for shipping were not forthcoming, and undertook a little investigation for the Admiralty Office. His report of 1817 shows interesting sidelights on English history and customs, graft and misuse of power, frauds and waste, grazing damage to oak reproduction, and a real concept of what the forest needed for its protection and development. As for forestry as such, Nelson perhaps would enjoy a visit to a National Forest. But, let Nelson tell us in his own words:

"The Forest of Dean contains about 23,000 acres of the finest land in the Kingdom, which I am informed if in a high state of cultivation of oak, would produce about 9,200 loads of timber fit for building ships of the line every year; that is, the forest would grow in full vigor 920,000 oak trees. The state of the forest at this moment is deplorable; for if my information is true, there are not 3,500 loads of timber in the whole forest fit for building, and none coming forward. It is useless, I admit, to state the causes of such a want of timber where so much could be produced, except that by knowing the faults, we may be better able to amend ourselves. First, the generality of the trees for the last 50 years have been allowed to stand too long; they are passed by instead of removed, and thus occupy a space which ought to have been replanted with young trees. Secondly, that where good timber is felled nothing is planted and nothing can grow self-sown, for the deer bark all the young trees. Vast droves of hogs are allowed to go into the woods in the autumn, and if any unfortunate acorn escapes their search and takes root, then flocks of sheep are allowed to go into the forest, and they bite off the tender shoot. These are sufficient reasons why timber does not grow in the Forest of Dean.

"Of the waste of timber in former years I can say nothing, but of late years it has been shameful. Trees cut down in swampy places are left to rot and are cut up by people in the neighborhood. Contractors, too, cut the trees to their advantage of carriage (i.e. to suit the length of their wagons) and the valuable crooked pieces are lost to the Navy.

"There is another abuse: trees which die of themselves are considered as of no value: a gentleman told me that in shooting on foot, for on horseback it cannot be seen (as it is) hidden by the fern which grows to a great height the tree of 50 years growth..............is cut only just above the ground entirely through the bark; in two years the tree dies, and it becomes a perquisite or is allowed to be taken away by certain favored people.

"These shameful abuses are probably known to those high in power, but I have gathered the information from people of all descriptions and perfectly disinterested in telling me or not knowing that I had any view in the inquiry; but knowing the abuses, it is for the serious consideration of every lover of his country how they can be done away or at least lessened, perhaps a difficult or impossible task.

"If the Forest of Dean is to be preserved as a useful forest for the country, strong measures must be pursued. First, the guardian of the support of our Navy must be an intelligent, honest man, who will give up his time to his employment: therefore he must live in the Forest, have a house, a small farm, and an adequate salary.

"I omitted to mention that the expense of Surveyor of Woods, as far as related to this forest should be done away; verderer (forest ranger) as at present; also the gardian (forest supervisor) to have proper verderers under him, who understand the planting, thinning, and management of timber trees; their places should be so comfortable, that the fear of being turned out should be a great object of terror, and, of course, an inducement for them to exert themselves in their different stations."

PRODUCTION OF LUMBER IN ARIZONA AND NEW MEXICO SHOWS INCREASE

Preliminary statistics, just released by the Department of Commerce, show a very substantial increase in the amount of lumber cut in Arizona and New Mexico in 1927, over that cut in previous years. For the year 1927, according to the preliminary estimates compiled by the Forest Service for the Census Bureau, 31 mills in Arizona, reported a cut of 169,000,000 feet board measure, while 82 mills in New Mexico showed a cut of 174,000,000 feet. This is an increase of 47 per cent over the amount cut in 1926, for Arizona and 37 per cent for New Mexico. and is by far the heaviest cut ever made. Approximately 90 per cent of the cut in the two States was western yellow pine and was largely marketed under the trade name of "Pondosa pine"; 8 per cent was Douglas fir and the rest white fir, spruce, and other minor species. The larger operations, that is those having a production of 10,000,000 feet or over per year, 10 in number, cut over 90 per cent of the year's production, and it is this cut which enters largely into interstate commerce. The small mills cut chiefly for local consumption and are an important factor in the local community. The total value of the output in the two States figured at average mill run prices exceeds $8,000,000, of which amount about one half represents wages paid to laborers. -District 3.

WHAT AND WHY IS NEWS

By C. E. Randall, Washington

Public relations work is a recognized and essential part of the Forest Service's business. Every Forest officer can include it in his activities to a greater or less extent, as the opportunities for PR work are never-ending.

Many of the news opportunities that arise are of local concern only. It is therefore within the local Forest officer's province to get it to the press. Local news goes best when it comes from local sources. It is worth while for every Forest officer to establish contact with the local press. While each district has its PR specialist, it is a physical impossibility for him to keep his eye on every phase of forestry activity in every part of his field. His work can be and should be augmented and supplemented therefore by local activity. It will be helpful to him, furthermore, if the local officer will keep him informed of all the broader phases of his work and of news opportunities that might be of wider interest than in the immediate community.

Frequently, news items of regional or national interest that emanate from district or national headquarters can be adapted to fit local needs. If such a story treats in a broad and general way of some phase of forest activity, its interest can be heightened locally by revamping the story to show how that activity applies in a particular community. A story for instance to the effect that so many thousands of dollars were returned to the counties this year from National forest receipts can be adapted to Clarion County by showing how much Clarion County received. In revamping such a story, the local elements should be put foremost. The story should lead off with the data which concerns Clarion County, and the national or regional aspects should be brought in later. In general, the rule for adapting "foreign" news locally is to emphasize the local elements and relegate the broader elements to second place.

It should be emphasized once more that press publicity is not an end in itself but a means of conveying to the public our forestry gospel. The press story is only a vehicle to carry our forestry message. Our objectives may be broad - to foster good will, or to stimulate a fire-conscienceness on the part of the public - or specific - to convey bits of useful information to those who can put it to use. In either case the message should be kept in mind in framing the press publicity which will carry it. The effectiveness of our press publicity therefore cannot be measured satisfactorily in column inches, but rather must show in results, insofar as they can be ascertained.

But good, live news offers an effective means of getting our forestry messages across. In general, the message must be hung on a news hook to make it acceptable to the press and interesting to the public. For that reason an idea of what constitutes news, and of what news values are, is useful to Forest officers.

WALT ALLISON RESIGNS

By John G. Clouston, Umatilla

Walter W. Allison, Senior Forest Ranger on the Ukiah District of the Umatilla, has seen fit to leave the official family for private enterprise. We regret his leaving.

Walt, the son of William Allison, an Oregon pioneer and himself imbued with the pioneer spirit has traveled the trails and fought the battle of progress on the Ukiah district for eighteen years. He has seen the Forest Service grow from its infancy to the present large and complicated organization, and has done his share in boosting that growth. A lover of wild life and nature, he has made himself a woodsman of first rank, and this characteristic has been invaluable to the development of the Ukiah District.

Long a respected and valued citizen of his community, he has built himself a security in the hearts of his neighbors and his associates that we envy. We hate to lose him. However, he is not entirely lost to us; he has only moved next door and we expect that many times in the future, his invaluable knowledge of conditions and his woods ability will come to the aid of his successor and former colleagues.

THIS WAY, PAUL BUNYON!

By Jno. D. Guthrie, D. 6

"At a recent guard meeting on the Shasta, a demonstration of blasting down dead timber was made. A sugar pine four feet in diameter was selected, a 1-¾ inch hole was bored two feet deep in 15 minutes; powder and fuse were inserted in 10 minutes; with a slow burning fuse the powder exploded in 1-½ hours, and seven hours later the tree struck the ground. Can anyone equal this? E. E. B., Shasta."

You'd know the origin of this, without much guessing. Well, listen, Shasta, to the following: D-6 can not only equal it but can leave it far, far behind. "Seven hours later the tree struck the ground", E. E. B. says. A cyclone must have fortunately passed over the area during the elapsed time!

Now listen! In March, 1928, on the Mount Hood Forest, which is in Oregon, a snag-blasting experiment was tried out. With an electric boring machine, 198 feet of holes were bored in one large, pitchy Douglas fir (over 50 inches in diameter) in 13 minutes. The total time for boring holes, loading and shooting, or putting the tree on the ground, was just over 30 minutes! The D-6 machine bores 2 feet of 1½" hole in from 1 to 1½ minutes. Several holes are bored with high-speed machine in each tree and it is cut clean, and also the falling is controlled in whatever direction desired. Also, 4 or more trees are "shot" at one time with an electric battery. Come again Shasta!

YE EDITOR DISCOVERS

Returning from a long motor trip through the Central States R. V. Reynolds stopped for two nights at Camp Perry, Ohio, the big Army training camp for riflemen, which is located at Put-In Bay on Lake Erie. In describing his experience Reynolds said:

"One Sunday night, September 9, the DuPont Company as part of its propaganda gave an outdoor motion picture show. A large screen was erected outdoors, and a set of the farm equipment which they sell for the production of electricity supplied the current to run the projection machine. I think that about 400 men were there sitting on the ground or on benches or camp stools in the darkness.

"The first film was one of the company's own production pertaining to its work and the use of its products. The second was a film of the Japanese Government showing the propagation of certain kinds of fish, and other features in relation to the Japanese fishing industry. The third was a very interesting and well photographed film by the Montana Fish Commission showing the propagation of trout and grayling for the stocking of Montana lakes and streams. This was of a great deal of interest to the sportsmen present.

"Next a Forest Service film was announced, and I was keen, of course, that it should be a credit to the organization. There was no need for apprehension along that line. The film turned out to be one by Wallace Hutchinson of District 5, entitled 'What Price Fire,' and it held the audience for three reels. The scene is laid in California, and there is excellent continuity to the story the climax of which is a stirring hand-to-hand combat between the hero and the villain who has set out the fires and thereby destroyed the interest of tourists in hunting and fishing trips. From my viewpoint there was nothing amateurish about this film either as regards the photography or the scenario, and for that reason the mind of the audience was not distracted from the object lesson which we want to put over. The men in that audience comprised perhaps a third or a fourth of the civilians in the camp. All of them are sportsmen. Many of them are influential professional men in their own States, and I doubt whether a Forest Service fire film was ever exhibited to better advantage as regards the geographic spread of its influence than on this occasion. It was certainly the hit of the evening and caused a great deal of favorable comment and discussion of the fire situation."

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Investigations of the most severe floods that have occurred in the Mississippi Valley show that they were the result for the most part of exceptionally heavy precipitation in the region including the south half of Missouri, Illinois, Indiana, and Ohio, the Western part of Kentucky and Tennessee, and Arkansas, Louisiana, and Mississippi. In this section the three-months' precipitation which caused the floods was from 15 to 30 inches, whereas the normal for this region is about 10. In the area receiving more than 20 inches of rainfall in 1927, 48 per cent was forest and 15 per cent woodland, of which only 4 per cent was in pasture. In 1922 the area receiving more than 20 inches of rainfall in the Mississippi drainage was 45 per cent more or less forested and 19 per cent woodland in farms, of which 10 per cent was pastured.

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Contributions to the amount of $103.50 were made by members of the Washington office to the American Red Cross Hurricane Relief.

LAMBING FIRES

By G. D. Brown, Fremont

For several years the Fremont Forest had a great deal of difficulty in preventing what is known here as "lambing fires". The sheep men who lambed on the range during the early part of April were in the habit of setting on fire many old logs and snags for the dual purpose of keeping warm and frightening away coyotes from the lambing grounds. These fires ordinarily did very little damage, but in some cases they were left, and later in the season would break out and destroy more or less reproduction and timber before being controlled by the Forest Service at some expense and with the risk of getting away and doing serious damage. Another problem encountered in connection with these early fires was the carelessness of sheep herders and camp tenders with their camp fires. A systematic campaign was started by sending circular letters to the owners. Personal interviews were held with the camp tenders and herders on the range. And a general appeal was made through the newspapers, calling attention to the liability of damage to the Forest, the necessity of additional expense which could be eliminated by more care on the part of the stockmen and (upon failure on the stockmen to be careful) the necessity of criminal action by the Forest Service.

The great majority of stockmen readily saw the necessity of cooperation with the Forest Service in taking precautions to prevent fires of this kind and instructed their employees accordingly. A few careless herders were discharged by their employers and the Forest Service found it necessary to use law enforcement methods on a few others, with the result that at the present time practically no trouble is encountered from this source. The cooperation of the stockmen largely brought about by personal contact by the Rangers and other Forest Service employees is largely responsible for the results secured.

THE MOTION IS SECONDED

By A. W. Armstrong, Mount Hood

Being in the sticks most of the time, and out of touch with other members of the Service to a great extent, I have often wondered just how the benefits of the Federal Employees Mutual Relief Association have been appreciated by others. Like Mr. Waha (Service Bulletin of 6/25/28), I have been a member for many years, and never fail to urge others to take advantage of this very reasonably priced sick and accident membership. Only once have I had occasion to make use of the sick benefit and that was for a case of the flu. The payment I was entitled to came promptly upon receipt of the paid bills, no red tape and no delay. The amount received was ample to pay for the care necessary and brought home very forcibly to me what a great help benefits of this kind would be if sickness extended over a considerable period.

The Association deserves the support of everyone, and now that the way is opened, I wish to recommend it to anyone not now a members. Personally, no matter how short I am I always save enough to meet the semi-annual payment of $6.00 and go my way for six months with a feeling of independence. I know if I never collect a cent I am still ahead of the game and on the other hand if I need it at all I'll probably need it very much.

> In the administration of the forest reserves it must be clearly borne in mind that all land is to be devoted to its most productive use for the permanent good of the whole people・・・Where conflicting interests must be reconciled, the question will always be decided from the standpoint of the greatest good of the greatest number in the long run.
>
> James Wilson, Secretary of Agriculture
>
> February 1, 1905

FOREST SERVICE U S DEPARTMENT OF AGRICULTURE

Service Bulletin

Contents Confidential

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PETERS, THE BUILDER

By Herbert A. Smith

James Girvin Peters, Assistant Forester in Charge of Public Relations, died at Camden, Arkansas, on the morning of October 9. A field trip begun on October 6 had taken him to Camden to address the South Arkansas Chamber of Commerce on behalf of a State policy of forestry. What seemed a minor indisposition at the time that he left Washington increased so that on reaching Camden he went directly to the hospital; but there was no indication that he was seriously ill until, the following morning, his heart weakened and then suddenly failed. Death was instantaneous.

It was met in the line of official duty. He had gone to Arkansas to help bring that State into line with the 38 other States in which departments of forestry have been created through legislation, mainly enacted since Federal cooperation with the States was inaugurated under the Weeks law. From the outset he had guided the Federal cooperation with the States, and had played a large part in bringing about the legislation for organized State forestry. Of all the States having a considerable forest area, only Arkansas still lacks such legislation. His interrupted field trip was to have been spent entirely in the interest of the forestry movement in that State.

"Pete" had been in the Forest Service continuously ever since the summer of 1903, following graduation from the Yale Forest School as a member of its second oldest class. Before that he had been a student assistant in the Service for three months, and still earlier, between graduation from Johns Hopkins and entrance at Yale, had spent a year in the lumber business in Oregon. From 1903 to 1907, he was engaged upon a wide variety of field projects that gave him extensive first-hand knowledge of forest conditions in all parts of the country. He worked successively in northern New Hampshire, Louisiana and Texas, eastern New York, southern Idaho, and New Mexico, spent some time in the southern Appalachians, and visited California, the Black Hills, and other timber regions. In 1908 he was advanced to the grade of Forest Examiner and assigned to the cooperative work of the Service, with headquarters at Washington - the beginning, as it proved, of what was to be his principal contribution to the advancement of forestry in the United States.

That contribution has been of a permanent and really monumental character. Its importance is not measured solely by the extent to which State policies of forestry have been inaugurated through legislation in response to Federal leadership. When the Weeks law was passed 11 States were qualified to undertake cooperative fire protection, by virtue of the fact that they had forestry departments, as against the present 38. The Federal cooperative contributions have risen from $50,000 to $1,200,000 annually, those of the States from probably not very much more than the same amount to $2,000,000, and those of private owners substantially abreast of those of the States. The area of State and private lands protected has been extended from a relatively small fraction to nearly 200,000,000 of the 381,000,000 acres in need of protection. All of this is due to the creation of a sound basis for working relationships through wisely conceived policies, and the successful maintenance of those relationships through skillful guidance. Initially recognized as an experimental venture, the cooperative theory embodied in the Weeks law has been translated into a working reality and has thus become the means of extending the cooperative idea to a still larger field, through later legislation.

No one who has had opportunity to watch the growth of the cooperative plan and the extension of its benefits can doubt that Girvin Peters far more than any other man has been its soul and guiding spirit. For this he was conspicuously endowed. He was able to combine the necessary degree of quiet insistence on essentials with the spirit of give-and-take, of conciliation, and always of courtesy, tact, and fairness. He was first, last, and always a gentleman, in the completest meaning of the word. He was, too, sympathetic with the conception of the States as sovereign powers. He did not seek to establish Federal overlordship under the guise of cooperation but on the contrary was ever quick to champion the viewpoint of the State Foresters and to contend for the equality of the States with the Federal Government, as policies were worked out. Thus he was able to avoid the rocks of attempted bureaucratic supremacy on which a differently endowed man might have made shipwreck of the whole undertaking.

His personality was of the kind that draws out the best in others. Companionable, lovable, honorable, sincere, he inspired loyalty as he rendered it, and won friendships as the natural flower of contact with him. His end came untimely, yet not too soon for him to have built for himself an enduring place in the lives of those associated with him as well as a rounded and permanent accomplishment in his public labors.

FORESTER'S TIMBER SALES

By Joseph C. Kircher, Washington

In connection with the study of the work of the Branch of Forest Management it was necessary to find out how much work the timber sale business made in the Washington office. For this purpose the open timber sale files were examined. From them certain information was gathered which may be of interest to field men.

There are now 48 Forester's sales under contract and one more is being advertised. The Washington office has approved 9 sales during each of the last three years. During the next five years 15 Forester's sales will expire and presumably present purchasers will come back for more timber. Forester's sales to new operators are made at the rate of 5 per year and for the present Forester's sales, 52 reappraisals will be necessary during the next five years.

When it is considered that the District Foresters now have authorizations of from 30 to 50 million feet to make sales without reference to the Washington office, this is a considerable number of transactions. There are, of course, a large number of cases varying between 10 and 50 million feet which never come in but probably account for a large cut. Many of them are to large operators who cut a considerable amount of Government timber, but the contracts are for a relatively short time and therefore the sales are within the District Forester's authorizations. The Forester's sales, on the other hand, are for very large amounts of timber and the contracts generally run over a long period of years, with provision for readjustment of stumpage prices every three years.

As judged by correspondence, the per cent of work by this office in handling the timber sale business with the various Districts is:

District	No. Forester's sales under contract	1926,27,28 to Sept. 1	8 months 1928
1	4	11%	9%
2	4	9	13
3	7	9	6
4	4	7	9
5	12	25	32
6	15	22	24
7	0	3	6
8	2	14	1
Total	48	100	100

This calculation is, of course, rough, but it gives a good indication of where the work comes from and how much it is. Included is not only the work on the sales now under contract but the whole timber sale activity. District 1, for instance, has had a good deal of correspondence over pulp sales, but no sale has yet been made. District 2 during the present year has had considerable correspondence about pulp and tie sales which have not yet resulted in much business. Of the District 3 sales, 4 have been made to one company in a region where policies have been pretty well settled and these sales were easily handled. Districts 5 and 6, of course, have the big sale business and it would be expected that they would be the highest. Together they account for about one half the work done here on timber sales and last year they brought in about 60 per cent of all the timber sale receipts.

For District 6 the Herrick case is not included, but the Hines case, its successor, is. If the Herrick case with its Congressional investigation in 1927 were included, the District per cent would be considerably higher. This was omitted because it was an exceptional case.

District 7 has not had a Forester's sale in recent years, but is about to get one on the White Mountains. Most of its timber is so situated that it is not necessary to make sales of large quantities of timber on long-time contracts.

District 8 is not cutting any timber under Forester's sales. The two sales shown are the pulpwood chances sold in 1927. Cutting will not begin for a few more years. The purchasers must first construct their paper mills. It took a lot of work to get these sales through because there were no precedents for many of the points of policy which had to be considered.

The office work (except clerical and filing) in connection with timber sale cases, Washington Branch of Forest Management, is estimated to require about one fifth of the office time of the men in the branch.

BEAVERHEAD INSECT CONTROL PROJECT

By C. S. Webb, D-1.

A number of years ago a rather heavy insect infestation of Dendroctonus Monticalae occurred in the vicinity of Swan Lake on the Flathead National Forest in Montana. This gradually spread up the Swan River, across the Blackfoot into the east fork of the Bitterroot River, and finally reached into the drainage of the Big Hole River on the Beaverhead Forest. As the spread progressed, the infestation became more intense and by the time it had reached the Bitterroot the severity of attacks proved heavy enough to cause almost complete devastation of the pines on large areas. The spread, as it continued on into the Big Hole country, caused much concern over the probable fate of the lodgepole stands in this drainage, and stands to the south, including Yellowstone Park. The Forest Service, in cooperation with the local officers of the Bureau of Entomology, made a rather intensive study of the situation during 1925 and decided upon a program of work in control measures. It was decided advisable to carry on control work both on the Bitterroot and Bighole sides of the Continental Divide.

During May and June of 1926, control work was carried out on both drainages. On the Bighole side four or five camps were used and about 5,200 trees were treated at a cost of $12,000 or approximately $2.32 per tree. The infestation at this time was confined to a strip on the west side of the Bighole from the Battlefield Ranger Station north to Fishtrap Creek, a distance of about 25 miles. The work done at this time was not sufficient to treat the entire area, and only the heaviest infestations were treated. During May and June of 1927 work was again carried on, nine camps, employing about 150 men, worked over the same area as the previous season and about twice as much additional area. Seventeen thousand five hundred trees were treated at a cost of $1.78 per tree. The infestation still remained a long way from being cleaned up.

Surveys, made by the Bureau of Entomology during the summer of 1927, showed some spread to the south of the Battlefield and considerable spread across the Bighole Basin to the east side.

It was estimated that there were 65,000 infested trees and that it would cost $100,000 to make a clean-up. An allotment of $95,000 was made for the job. It was planned to run 20 to 25 camps and employ 400 to 500 men. Considerable camp equipment and tools for the work had to be purchased, the approximate cost of tools and equipment being about $12,000.

The first of May the establishment of control camps was commenced. Camps were established on both sides of the Basin for a distance of 50 miles up and down the river. Twenty-five camps were used and as a number were moved in the course of the operation, there were a total of 37 camp settings. The work started May 1 with one camp of 18 men and was gradually, but rapidly, built up to 25 camps employing a maximum of 475 men, 43 of which were Forest officers. In addition about 100 horses were in use. A headquarters office and warehouse was established at Wisdom, Montana, and the supplying of all camps and other organization matters were handled from this central office.

On June 13 the tearing-down process commenced and by June 20, the 25 camps were all disbanded, and practically all of the men released except those retained for moving in camps and putting the equipment and supplies in shape for storage. The work was largely handled by felling the trees, cutting the infested boles into log lengths, skidding into piles and burning. Some infested trees were burned standing. This was done by piling dry limbs and brush around the tree and setting it on fire. About 10 per cent were disposed of in this way. It is only possible to dispose of trees in this manner where they stand out pretty well alone. To use this method in denser stands would result in too much damage to adjoining healthy trees and reproduction. During the spring of 1928, we treated approximately 55,000 trees, an average of one tree to each two acres worked over. The cost, after figuring 20 per cent depreciation on equipment purchased in 1927 and 1928, amounts to $1.63 per tree. The infestation is not yet cleaned up, and we must await the completion of a survey this summer by the Bureau of Entomology before we can determine just what remains to be done another season in order to effect a clean-up.

A number of Forest officers from D-2, D-4, and D-6 assisted the men of D-1 in the work this season. Their services were very helpful and very much appreciated by all the D-1 men who were connected with this job.

AIRPLANES IN WILDERNESS AREAS

By Fred R. Johnson, D. 2

Since reading District Forester Morrell's lament on "Wilderness Wrecks" in the Sept. 10, 1928, issue of the Service Bulletin I have been reminded of several things I have heard this summer. Most of the D-2 wilderness areas are set up on end and there are very few places where aviators would attempt to land. Perhaps some of the jagged rocks would serve admirably to catch the anchors thrown out from dirigibles, but no airships of this type have ventured in our mountain region.

An application was received this summer for a landing field on the Grand Mesa Forest at an elevation of 10,200 feet. The company proposes to operate an air line from Grand Junction, Palisade and other towns in the Colorado river valley to the top of Grand Mesa, so that people in a half hour's ride can escape from the heat of the valley and enjoy the excellent fishing in the Grand Mesa Forest. A landing field was selected in a fairly level mountain meadow but the company has not yet gone through with their project. Regardless of that, we know that air transportation in the Forests is coming.

While on the Superior Forest last fall near the Canadian border, we got quite a kick out of seeing a plane flying over the sacred Superior Wilderness Area, over which many million words of gaseous air have been spoken and written. Probably the plane contained a great many kicks, if it was one of those reputed to be engaged in the rum-running business. Recently the Senate Committee which was studying the proposed power development along the International Boundary line flew over the Superior in planes. And why not, if this gave them a clearer and better picture of conditions in a few hours than they could have secured from a week's travel in canoes?

In most of our wilderness areas, topography will prevent landing, although it will not prevent flying over the region. What is our policy to be regarding landing fields in these areas, remembering also that hydro planes need no special field if there are lakes of proper size?

The National Park Service viewpoint along this line was started by Mr. Albright, Superintendent of the Yellowstone National Park, at a meeting held at Cody, Wyoming. in July by a sub-committee of the U. S. Senate Public Lands Committee. The sub-committee held hearings to secure local views on the proposed Yellowstone Park extension, which contemplates adding portions of the Shoshone and Teton Forests to the Park. A prominent "dude rancher" who advocated the change stated that he had no objection to Forest Service administration, but considered that some of the region to be added would be more certain to be kept as a wilderness area if under Park Service jurisdiction.

Superintendent Albright said that these areas would be protected from all of the developments of modern civilization and that they would also be "air tight" to the extent that no landing fields will be permitted in the Park. Permits for necessary fields will be granted near the Park boundaries, with the proviso that the permittee agree not to fly the airplanes over the Park. In other words, the Park Service will allow planes to come to their boundaries and land, but from these points on people must travel by cars where roads exist, and by horse or foot elsewhere. The Park Service evidently feels that it can prevent planes from landing in the Park except in emergency and can control everything but their flights.

DOROTHY ERICSON IS HEROINE

By Helen F. Griffin, D. 6

During the past summer, Mrs. Oliver F. Ericson, wife of one of our D-6 logging engineers, and I, with our children, camped for a week on the Sandy River near Portland, Oregon. The weather was very hot and the children enjoyed playing in the river, and as there was always a number of grown people in swimming, they seemed safe. They had been cautioned to stay in the shallow water. Dorothy Ericson, nine, swims just a little, while my little daughter Ruth, seven, does not swim at all. One afternoon they were playing in the shallow water, when Ruth, who was holding to a plank, was suddenly swept into the current of the river, the plank snatched from her hands, and she went down in deep water. Without a moment's hesitation Dorothy made her way to where Ruth was struggling and caught hold of her. The weight was too much for Dorothy, and both little girls went down. By that time the attention of the grown folks had been attracted and a man (a life guard on his vacation, by the way) had reached the children. He took Ruth, and with Dorothy making her own way at his side, came to shore. Ruth was badly frightened, but after a good deal of river water had been shaken out of her, was none the worse for her experience.

When praised for her quick thinking and bravery by two tearful mothers, Dorothy's only comment was: "I don't see that I did anything; anybody would try to help his friend." But it does seem that Dorothy demonstrated in a very splendid way that Forest Service principle laid down for fire fighting but equally applicable to any emergency: "Hit the Fire Quick". There is no doubt in my mind that only Dorothy's prompt action saved Ruth from a very serious risk of her life, if not actual drowning.

THE INDIANS DID USE FIRE!

At various times in the past there has been considerable discussion as to whether or not the Indians actually burned the woods in the course of their hunting practices. Recently in reading some correspondence of Thomas Jefferson we came across the following interesting observation. Inasmuch as Jefferson as a boy had seen much of the Indians (Cherokees), for he says they visited his home often, and as he spent considerable time in their camps, his observation is of particular value. The letter of May 27, 1813 is also of interest in that it is from one ex-President to another ex-President, John Adams:

Thomas Jefferson to John Adams, May 27, 1813.

"You ask if the usage of hunting in circles has ever been known among any of our tribes of Indians? It has been practised by them all: and is to this day, by those still remote from the settlements of the whites. But their numbers not enabling them, like Genghis Khan's seven hundred thousand, to form themselves into circles of one hundred miles diameter, they make their circle by firing the leaves fallen on the ground, which gradually forcing the animals to a center, they there slaughter them with arrows, darts, and other missiles. This is called fire hunting, and has been practised in this State (Virginia) within my time, by the white inhabitants. This is the most probable cause of the origin and extension of the vast prairies in the western country, where the grass having been of extraordinary luxuriance, has made a conflagration sufficient to kill even the old as well as the young timber." - E. N. M.

YE EDITOR DISCOVERS

The field classification questionnaires had the right of way when they reached the Washington office. Everybody concerned put the work on these questionnaires ahead of other matters and on October 13 the questionnaires for the Districts were sent to the Department. This was two days ahead of the date that they were due, and the time gained is regarded as of importance, for it means a better opportunity for the Personnel Classification Board to do its part and get consideration of its report by the coming short session of Congress.

The Forester has designated District Foresters Morrell, Pooler, Kelley, a representative of the Branch of Research, and Mr. Headley, to aid the Personnel Classification Board, in developing a scheme of classification and allocation that will come as near as possible to fulfilling the needs of the Forest Service while meeting the requirements of the Department and of the Personnel Classification Board.

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At the Monument Nursery on the Pike Forest in Colorado very remarkable results have been obtained through the use of aluminium sulphate in growing the Rocky Mountain variety of Douglas fir. Several years ago the Bureau of Plant Industry suggested that this chemical, among a number of others, be tried as a means of controlling root rot in the Douglas fir seed beds, after that disease had become so bad as to make the continued production of Douglas fir in that nursery of very doubtful advisibility. It proved to be remarkably successful at the Monument Nursery, although it has been reported that in some other places its use resulted in the death of the trees. This fall Schrader is showing with justifiable pride beds of 2-0 Douglas fir completely stocked with sturdy, thrifty seedlings of unusual size for the region, although adjacent beds sown at the same time but not treated with aluminium sulphate contain practically no seedlings or only a few dwarfed and sickly specimens. Mr. Schrader is also convinced that this same chemical has prevented heavy losses from the damping off fungus, although so far he has also continued the use of sulphuric acid on seed beds as a precaution against loss from this disease.

Whether the startling success from the use of aluminium sulphate is due to the chemical composition of the soil at the Monument Nursery is not known, but, in view of the losses which have attended its use in some other places, Mr. Schrader is cautious about advocating its use elsewhere, although at the Monument Nursery it seems to be a panacea for all ills of Douglas fir.

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A promising development in New Hampshire is the formation of the Merrimack County Woodlot Owners' Association, which now has 123 small woodlot owners in its membership. Last spring 23 members planted 76,000 trees, and many others have commenced operations calculated to improve their woodlands.

- - - - - -

We are glad to welcome a new lady contributor to the Bulletin. Miss Helen F. Griffin of D-6. How about some others? This is not a "Stag" magazine.

ALL THE COMFORTS OF HOMES

Bob Hughes, road construction foreman, District 3, had the distinguishing comfort and convenience of having electric lights all through the summer at his Cave Creek road camp on the Coronado. The Homelite generator which had to be abandoned for the educational outfit because of its age and inadequacy to furnish sufficient motive power was used. Two 60 watt lights were installed in each of the cook, dining, and office-bunk tents, which enabled Mr. Hughes and his foreman to make out reports, plan work for the next day and indulge in a little reading with a maximum degree of illumination. The cost of maintenance was about six hours of "juice" to a gallon of gas making the cost of upkeep and maintenance considerably cheaper than the lanterns though the initial cost is somewhat higher, a new Homelite selling at about $225.00. - District 3.

GREEN TREES WILL FALL

By O. C. Houser, Umpqua

The Friday-the-thirteenth jinks recently visited the Umpqua in a very startling manner. Willard Cook, fireman at Fitzgerald Camp at the forks of the South Umpqua River, was living in a standard shelter.

On the evening of July 13, Cook had retired, when about 9 p.m., he was startled by the noise of breaking timbers. He hastily dressed and went outside, where he scarcely had time to determine the source of the noise when a large, green Douglas fir tree, 4 feet in diameter, crashed down across his camp, wrecking the shelter, telephone line, stove, in fact almost everything about the camp. Live coals from the stove were scattered about and a fire was started in the remains.

Cook, by use of a test-set tied on to the main line, reported the event and requested help. The Dumont fireman was sent to Cook's assistance. In the meantime Cook had extinguished the fire without difficulty.

Next morning the two men set about salvaging the Forest Service equipment and Cook's personal belongings. An entirely new camp has been established and the fireman will occupy a tent for the remainder of the season.

The tree which caused the destruction fell during a perfect calm. One large root was broken off and the others were upturned when the tree fell.

YELLOW FLOWERING PLANTS MOST NUMEROUS

Observations made in the field and checked in the Jornada Range Reserve herbarium indicate that plants bearing yellow flowers are more numerous as to species, that the species are more abundantly represented and that they usually have larger and more showy inflorescence. In the observation of 200 common species, the following distribution of color was found:

Yellow flowers	41.5 per cent
White flowers	26.9 per cent
Purple flowers	12.3 per cent
Blue flowers	9.8 per cent
Red flowers	4.7 per cent
Pink flowers	2.4 per cent
Small greenish flowers	2.4 per cent

- District 3.

> In the administration of the forest reserves it must be clearly borne in mind that all land is to be devoted to its most productive use for the permanent good of the whole people. · · · Where conflicting interests must be reconciled, the question will always be decided from the standpoint of the greatest good of the greatest number in the long run.
>
> James Wilson, Secretary of Agriculture
>
> February 1, 1905

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MICHIGAN KIWANIS FOREST PLANTATION

By M. W. Thompson, D. 2.

Since the Huron (formerly Michigan) National Forest was established on the sand plains of Michigan in 1908 its most important creative work has been reforestation. Slowly at first, but at a constantly increasing rate, a planted forest of Norway pine has been replacing the open stand of stunted oak and scrubby jack pine of the plains. Trees fifteen feet high stand where planting was first undertaken. On extensive areas the trees are from two to three feet tall. Plantations of recent years, hardly showing through the brush and grass, extend for miles. In all, twenty-one thousand acres, the largest of the National Forest plantations, had been reclaimed prior to the planting of this fall.

Years ago people near the Forest began to take an interest in the plantations. In fact, the nursery and new Forest have been show places for a long time. Among those who saw them with more than ordinary interest was Harry Black of Flint, Michigan, formerly a member of the Forest Service and now chairman of the Conservation Committee of the Michigan Kiwanis Clubs. Largely by his efforts funds were raised through contributions from 1600 members of 38 of the 41 clubs in the State for reforesting 5,000 acres, thus giving practical expression to the Kiwanis motto "We Build". The Supervisor now has more than 100 men at work establishing the Kiwanis Forest Plantation at the rate of 300 acres a day.

On September 21, 550 Kiwanians and friends of forestry from throughout the State of Michigan gathered on the high bluffs overlooking the historic AuSable River to dedicate the new Forest. After a trip through the plantations a picnic supper was served under the auspices of the East Michigan Tourist Association, the Northeastern Michigan Development Bureau, and the Kanotin Club of East Tawas. Around a huge camp fire speakers contrasted the era of lumbering with that of reforestation. An old time logger pleaded for public support of the planting work. Later the Governor of the Michigan Kiwanians called Supervisor Schreck to the speaker's stand and presented the plantation to the Forest Service. The Governor expressed his confidence in Supervisor Schreck and promised the continuous support of his group. The Supervisor tendered the thanks of the Forest Service and was followed on the program by the Forester and others.

Another project, tying in closely with the planting, is the plan to erect a monument in the form of a "lumberjack" at the high banks above the AuSable River at the junction of the newly constructed Thompson highway and the graveled road leading to Oscoda. It will be above the "giant ox-bow" and will overlook a long stretch of this river made famous by the million feet of logs that were driven down it in the old days. To this end each person attending the planting celebration brought a rock to be incorporated in the base of the monument. In addition, each of the Kiwanis Clubs in the State is contributing a rock on which the inscription of its name appears. Many carved rocks have already been received from Kiwanis Clubs and individuals, including many of the old time lumbermen of the State.

The Kiwanis plantation is unique, for it is the result of the first really large donation made to the Forest Service for planting work. It demonstrates the interest which the public is taking in reforestation. This is further shown by the fact that the leaders of Kiwanis have volunteered to finance another 5,000 acre planting in 1929. Already sufficient contributions have been made to finance 858 acres. Accordingly, a similar gathering in the fall of 1929 is planned and seems assured.

WILDERNESS AREAS?

By H. H. Simpson, Inyo

Mr. Morrell's "Wilderness Wrecks" and the Editor's solution by forestation so they cannot land, bring to mind recent divergent points of view as expressed by an Assistant Forester from Washington, and an Assistant District Forester from the District 5 headquarters. It was my privilege to be the mahout for the gentlemen during a recent trip of inspection made of the Special Use, Recreation, and Wilderness Areas of the Inyo.

The Assistant D. F. maintained that this road should be blocked right here.

He expressed the desire to tumble a boulder weighing about 25 tons from the adjacent steep slope into the road so that it might be blocked permanently.

The Assistant Forester took issue with his point of view and stated that it appeared to him that this is exactly the kind of place that should be developed and made available for public use. That statement struck a responsive chord in the breast of yours truly.

Because of the natural attractions of the section, and the complete absence of fire hazard, it seems to me to be exactly the kind of place we should concentrate our efforts to populate with the predatory tourist, camper and special user. Still there are among us apparently otherwise normal human beings who maintain that we should keep 'em out.

I maintain we should close to public use the areas of high fire hazard. To those who do not agree, I respectfully refer to our unenviable fire statistics.

To build roads into areas of high fire hazard, is to build roads over which the fire danger enters. Still we build them in the name of Protection Roads.

I can see in the not far distant future big CLOSED signs at the Forest entrance of intensively used and burned recreation and special use areas now touted as world beaters. And they are in more than one sense. There's the sticker.

When we recognize that time, for it is here, and has been among us these many years; when we close the areas of high fire hazard, if we have ready and developed other areas of no fire hazard we can say to the public, "Come Hither Brother and do not Pine." And they will come. And Gladly. We can still the clamor, we can minimize the howl, and we can justify our position by our fire statistics. But we can do so only by having ready for their occupancy the areas that are more attractive and without fire hazard that we or at least a lot of us are trying to keep them out of. Therefore let us think of a change in name for our so-called recreation roads for which we get $1.00. It strikes me that they can logically be termed Fire Prevention Roads. Let us open up and develop those portions of our, at present, Wilderness Areas that are Fire Proof and invite the public to come, safe in the knowledge that we have taken them away from areas of fire hazard and satisfied them in areas that they cannot burn. And Brethren we have hundreds of square miles of just such areas in California. I wonder if our so-called recreation roads could not be justified, and allotments for them wheedled out of the powers that be if their real fire prevention potentialities be given fair consideration.

ATTENTION MR. SECRETARY

By G. C. Burch, Wenatchee

On August 27, two boys, Raymond and Donald Beattie, age 6 and 8 years, respectively, spotted a fire in an old burned slash, about 1/8 miles from their home on the Wenatchee Forest. Knowing this fire should not be burning they ran to a nearby contractor's camp and informed the cook. The cook told them "Aw, let it burn itself out, it's doing no harm", but this did not satisfy the two youngsters, who then went home. One boy taking his father's pitchfork, the other a stove shovel, they were found later by a passing Forest officer busily throwing earth on the fire and doing their utmost to hold it in check.

SOME MORE SNAKE YARNS

"The simple action of drawing a line with a black ash stick, and strewing on the line some leaves of the same tree, is known to be entirely sufficient to hinder any snake from crossing the line and to deter him from interrupting anything within side of it. So great is their terror of this timber that they are never known to inhabit where it grows; and, if a branch of black ash be suddenly cast before a rattlesnake, apprehension and fear instantly seize him; his rattle ceases; his passion subsides; and groveling, timid, yet disquiet, he takes a large circuit to pass the branch, or, more probably entirely retires." The familiarity of the Indian priests with the snakes is as simply accounted for, as they are "acquainted with herbs and other substances, for which the snakes entertain the most inordinate apprehension and antipathy, or else the most decided attachment and attraction. Alternately armed with these, the priests make them fly from or approach them; and when their hands and bodies are washed with a decoction of the black ash leaves or trunk, the snakes will writhe about them in a kind of suffering and terror, but never attempt to bite." - From Thomas Ashe - Travels in America, 1806.

PACKING FIRES AWAY IN WATER

By K. P. McReynolds, Umpqua

We, of this ranger district, of the Umpqua Forest, claim to have one of the most resourceful packers, as far as fire is concerned, in District 6. Prove it? All right!!

The other day, Charles Hamilton started for Mt. Meadows with his string of mules. Along the trail about half a mile from the river he found a fire of some 3 sq. ft. in size, evidently the result of some fisherman's carelessness. Charles rolled off his horse and proceeded to get it under control. This accomplished Charles did not want to linger longer to put it out as he was in a hurry;- so he shoveled the whole thing into a "forkie", put it on his mule, "Moonshine", hauled it to the river and threw it in! Do we win?

PINES

Pine trees grow so upright on a rugged hill,
Stand so tall and straight,
You'd think they had a mission to fulfill
Somewhere between the clouds and where the white stars wait.

Pine trees rage so wildly with the wrestling gale
Fall with such a crash,
They seem to fight a battle with the hail
To keep a tryst with thunder and with flash!

Pine trees speak so softly on a summer's day,
Whisper low and sweet,
As if they've learned the world's old heedless way
And still find something kindly to repeat.

Pine boughs, burning, flame with such a sudden light,
Flare to vivid life again,
Surely they go with passion, joy and pain,
Pine boughs burn so brightly on a winter's night.

Margery Swett in The Epworth Herald.

PAUL BUNYAN'S PERMANENT IMPROVEMENTS, UTAH

By Marguerite A. Israelson, D. 4

We wonder where some of the old wrecks of Fords came from. Yes, where did they come from?

Now we learn that Paul Bunyan had them in prehistoric days for his use as a Forest

Ranger, and by the statutes of descent, they passed automatically from his hands into the hands of the Forest Service, as it is now known.

You ask us for proof. Is there not proof galore? Do not some of the present automobiles of no known make of cars, as we have them at the present time, indicate that a decadent people may have used them?

Ethnologists all say that prehistoric peoples probably came from one common stock, but the mystery has always been, "How did they migrate from the Garden of Eden?" or whatever place the human race started. The mystery has now been solved by the Sherlock Holmes method of putting two and two together. Paul Bunyan transported prehistoric people in prehistoric automobiles, which, of course, he had for his own use as the original Forest Ranger. He then turned the machines over to the Forest Service!

The question might be raised as to where the roads and trails over which these prehistoric automobiles traveled, are.

In answer we must admit that most of them are gone by the ravages of erosion, some of his more permanent improvements, however, still remain, as for example, in southeastern Utah, now known as the Natural Bridges.

It is now submitted that these are not Natural Bridges, but bridges placed by Paul Bunyan for his own use in Forest Service work, and it is over these bridges and highways that the prehistorics passed in their migrations.

RANGER CASE RESIGNS

By A. G. Jackson, Siskiyou

George S. Case after rounding out ten years as District Ranger in charge of the Gasquet District on the Siskiyou, resigned from the Service July 18, to accept a position as local manager of a public utilities corporation at Crescent City, California.

Mr. Case began his employment in the Forest Service on the Oregon (Now Mount Hood) National Forest in 1915, serving three seasons as forest guard on the Bull Run Ranger District. Upon receiving his ranger appointment he was assigned to the Gasquet District where light burning was a regular practice and incendiary fires were common events. During his administration of this district he gained the respect and friendship of the Forest users and other residents of the region The sincerity of this respect and friendship is evinced by the falling off in light-burning operations and man-caused fires on his district. Last year he had two man-caused fires and two convictions, a 100 per cent record. As a measure of Case's success in selling forest protection to the public, people at Crescent City were saying proudly last year, "We have no forest fires in our district."

Before entering the Service Case worked as a millright for seven years, had land surveying experience in Idaho under E. P. Rands for three seasons, worked in a furniture store, and put in some time in Alaska.

An athlete of considerable ability and endowed with personality plus, Case won many friends for the Forest Service. His cheerful nature made him welcome wherever he went.

The Siskiyou will miss him as a fellow worker but we know that George will always be a friend of the Service and a good cooperator. He takes with him our best wishes for success in his new field.

"TEACHING FILMS" ARE RAPIDLY GAINING GROUND

Experiments with educational motion pictures progress apace. Perhaps no one now doubts that "teaching films" are here to stay, for they have proved their worth, not only by controlled tests of isolated lessons but by the everyday experience of years.

It is said that 15,000 educational institutions of all types in this country are equipped for motion-picture projection. Many State universities maintain film libraries in their extension departments and systematically supply films to schools and community organizations in their own respective States. Yale University has participated in the preparation of a series of films on American history and Harvard is cooperating with a big film-producing concern in making films relating to science. Some universities make films on their own account and upon a rather extensive scale. In several of the cities, like Newark, New Jersey, every new schoolhouse is equipped with projecting machines, and some cities, of which Cleveland is an example, have already installed such machines in practically all their school buildings. For some time past it has been customary to place motion-picture equipment in the auditoriums of new high-school buildings as a matter of course. And the use of this form of instruction is increasing rapidly, notwithstanding the misgivings of those who hold that learning through pictures is too easy and that it results in superficiality and mental indolence. - Taken from SCHOOL LIFE, September, 1928.

FOREST FIRE TORCHES

The Central Railway Signal Company has just shipped the Pacific Northwest Forest Experiment Station a complimentary box of a new type of fusee made particularly for use in back-firing, as its printed label indicates. It was made according to suggestions offered by several forest protectionists who had tried the standard railway fusee in fire fighting or slash disposal at the instigation of this office. The new "forest fire torch" has a tin ferrule instead of the spike point, is slightly larger in diameter, therefore giving 36 per cent more volume of flame at 2000° F., and burns for over ten minutes. Manufacturing of these has just begun and they will be disposed of in boxes of 24 each, or cases of 144 torches, at $3.00 per box or $16.20 per case.

CRUISER POSTERS IN FIRE CONTROL

By R. J. Wilbur, Whitman

On July 29 a fire was reported to me, burning in southeast quarter of the northwest quarter of Section 23, Whitman Forest. The location given was plain enough on paper, but the exact location of Section 23 on the ground was not so plain as I had never been near it. Getting a big Swede for a helper, I started to the fire. After trying to keep up with the Swede for a little less than a hundred miles over an abandoned logging railroad with a tie about every three or four feet, I caught sight of a Forest Service cruiser poster on a tree about fifty feet from the track. Upon examining it, I found that it marked the quarter corner between Sections 23 and 14. In other words, we were then at the northwest corner of the northeast quarter of Section 23. By following a small ridge that lay in the general direction, we wanted to go, we came directly on the fire which was a small lightning fire, burning in a lodgepole thicket and wasn't putting up much smoke. Before finding the cruiser poster I was planning to go up another ridge which would have taken us about one-half mile east of the fire. The poster saved at least one hour of travel time and enabled us to get to the fire before the heat of the day. The corner marked by the poster was in an old burn and the blaze on the witness tree was badly scorched and would never have been taken for a section corner had it not been for the poster.

SUDANESE WATER TREES

In western Kordofan Province (Sudan), the supply of drinking water is peculiarly dependent on trees. As the soil is so porous that wells will not hold water for long after the rainy season ends, the natives have devised a system of tree wells. The villages are clustered around clumps of baobab trees (Adansonia digitata), which reach large size - occasionally 40 feet in circumference - and are naturally hollow. There are about 33,000 of these trees used as cisterns, Each one has a name and is carefully guarded by its owners.

The natural cavities have been enlarged by the natives, and holes are cut in the trunk, usually just above a big branch on which a man can stand when drawing water. During the rainy season a pool is made by banking up the soil at a short distance around the tree, and a man fills the tree by dipping up the water with a leathern bucket. Sometimes the hole is so made as to catch the rainwater running down the branches. Especial care is taken not to fill the tree too full, in order that it may not be blown over. The average tree holds about 250 gallons. - W. N. S.

FILE IT WHERE YOU CAN FIND IT NEXT SPRING

Oh, poison ivy, where is thy sting, asks the Carson Pine Cone. Dr. James F. Couch, research worker in the Department of Agriculture, has found a common, cheap remedy that cures practically 100 per cent of all cases of ivy poisoning. The compound is potassium permanganate and is applied by swabbing a 5 per cent solution on the afflicted parts of the skin with a soft cloth or bit of cotton. In a short time the itching and burning stops and recovery is rapid. Poison ivy is a strictly American plant, and its history dates back to the days of the Jamestown settlement. The old childhood rhyme is a good one to remember when in the woods: "Berries red, have no dread; leaves three, quickly flee." - D. 3 Bulletin --

YE EDITOR DISCOVERS

For the last four or five years considerable delay has occurred in the payment of the 25 per cent from the annual receipts of the National Forests to the States and in the warranting of the road and trail appropriation (commonly termed the 10 per cent fund) for expenditure by the Service within the Forests. This delay has caused certain States considerable inconvenience and resulted from the insistence of the General Accounting Office that settlement of all of the district fiscal officers' accounts be completed before authorizing the payments. Under date of October 10 the Comptroller General suggested a plan whereby the Service hopes to effect a more prompt settlement of these accounts.

While the proposal offers certain administrative disadvantages, it is planned to adopt it because of the importance of prompt payment of the States' share of the National Forest receipts.

The States' portion of these funds averages around $1,300,000.00 annually. The law authorizing the payments provides that the State shall expend the money in the construction of roads and the maintenance of schools in the counties in which the National Forests lie. The appropriation growing out of the receipts and made available to the Forest Service for expenditure on road and trail work amounts to about $520,000 each year.

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If the gods do not fail us we expect to grow our largest crop of motion pictures to date, this year. The cinematographers have just completed a whirlwind trip in Districts 3 and 4, and, with the splendid aid of the local boys "Force" Forsling, Dana Parkinson, and Blaine Betenson of D-3 they got some very nice stuff on sheep, which Mr. Georgens, who turned the crank, says is good. In D-3 they were transported in latest model Ford trucks at a high rate of speed to, and over, and around the Datil Forest under the guidance of John D. Jones and Dave Shoemaker. Mr. Georgens reports that the film secured here has also turned out A-1. Features of this trip were the delightful exploration into the Pueblo ruins of C. A. Long's Ford truck, which proved highly exciting, and the amount of fresh mountain air which Dave Shoemaker and John D. Jones pumped into the tires of the District Forester's Dodge. We personally saw Dave and John working on nine distinct tires and the Dodge has only four wheels. After finding the locations of the various plants demanded by the hard-hearted director and the scenario, from early morning until dark. Dave and John spent their nights pumping tires so that there would be no lost moments - and there weren't.

The D-3 picture will be on the management of cattle forage and that in D-4 on the management of sheep forage. There is also to be a Southern Appalachian film on farm forestry, taken in cooperation with the Extension Office. A three-reel film is needed to take the place of "Trees of Righteousness," the work for which will be done in cooperation with the State of North Carolina. We have also finished filming, with the assistance of Dr. Diemer of the Forest Products Laboratory and Fred Wilson Extension Forester of Wisconsin, the material for a picture of Zon's selective logging study in the Lake States hardwoods.

HOW TO MAKE A JUNE 11th PAY!

By L. B. Pagter, Mount Baker

The Davis homestead on the Skagit River, within the Mount Baker Forest was recently the subject of a condemnation suit brought by the City of Seattle. The jury awarded Davis $20,000 damages. Last year the City had to pay him about $13,500 for a right of way through his place. Forty-three acres of land far back in the mountains have brought $33,500! The City of Seattle by its power and railroad developments on the Skagit River has made this place valuable and has had to pay for so doing. For homestead purposes the tract was worth maybe $2000, although Davis declared that he made a net income of $3,000 a year from the tourist trade (which will have to be taken with a grain of salt!). Anyway, homesteading was a mighty profitable investment for him.

> In the administration of the forest reserves it must be clearly borne in mind that all land is to be devoted to its most productive use for the permanent good of the whole people... Where conflicting interests must be reconciled, the question will always be decided from the standpoint of the greatest good of the greatest number in the long run.
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IMPORTANCE OF FIELD CLASSIFICATION

By R. Y. Stuart

The Service attaches large importance to the classification now being made of field positions. Classification involves intelligent and fair treatment of jobs and men. In a broad sense it defines employment conditions and in a real sense it sets up the requirements of the job. Nothing is of greater import in Forest Service work, nothing enters more vitally into Forest Service accomplishment for the public good, than the qualifications of our men for their jobs, the way in which they perform those jobs, and the compensation they receive.

The first step in classification has been taken. Each member of the Service on field duty has been given a description of his job which becomes a part of the record of classification. A review of these statements has been made by superior officers in the field and is now being made by representatives of the Forester's office in Washington. Final review and approval, after submission through the Secretary of Agriculture, is given by the Personnel Classification Board.

The task of thoroughly reviewing and passing judgment, preparatory to recommendations in classification, is so large that the Forester has selected a special committee to represent him in it. This committee consists of Associate Forester Sherman, Assistant Forester Headley, Assistant Chief of Research Marsh, District Foresters Morrell, Peck, Pooler, and Kelley, Assistant District Forester Woods, and E. F. White of the Forest Products Laboratory. This committee is now being brought together in Washington and will function on behalf of the Forest Service, in cooperation with the Personnel Classification Board, in the handling of Forest Service cases. It will also give such assistance and advice as the Board may call for in respect to other government positions in any way comparable in responsibility and function to Forest Service positions.

Nothing short of painstaking and conscientious effort to appropriately allocate our field positions will be satisfying.

IF I WERE A NORTHERN FARMER

By Raphael Zon, Lake States For. Exp. Sta.

In this article I am trying to place myself in the position of a northern Michigan farmer who is considering certain definite policies outlined of late years by State and Nation, and for which policies my support is asked.

Take the question of conservation, which we all agree is a great one. Most of the conservation policies are written by city people. Often they overlook the needs of country folk, especially the farmers or settlers in a semi-settled northern country like the upper peninsula of Michigan.

To a farmer in the sparsely-settled new country of the north, the question of orderly land settlement should be of vital importance. Haphazard,hit-or-miss settlement should stop. The State should assume definite responsibilities for the selection of land to be settled, and it should aid the settler to make a success on the land.

If I were an upper peninsula settler I would certainly insist on the land economic survey as a basis of land development. This survey could be expanded and more of the economic side emphasized.

As a north country settler I would favor the maintenance of permanent timber production on all land unsuitable to agriculture. If the settler is to succeed he must have a market for his farm products in the lumber camps and mills and other wood-using industries, and also a market for his own labor and teams in winter logging and milling operations. The settler can consistently support a program of effective fire protection, forest planting, selective logging, and measures like forest taxation, that will keep the forest land productive.

As a settler I would insist that in any plan for fire protection in the north country, special effort should be made that settlers' homes should be as fully protected against fire as the cut-over land itself. Every big forest fire means so many settlers burned out.

I would be in favor of developing the region as a great recreational and tourist country. This means again a market for farm products. I would favor the beautification of the highways and would emphasize the need of opening up the country by such roads as would give every farmer access to the main highways. It is the country roads over which the settlers travel most, and not the main highways.

In the matter of fish and game, I would of course be for public shooting grounds and for public game refuges.

If I were a farmer living in the settled agricultural section of southern Michigan, I would endorse all the above measures and I would ask for a few others.

I would like the State and Federal Governments to pay more attention to reforestation in the southern part of the State. The study of flood reports shows that the most dangerous areas from the standpoint of floods are not in the north, but in the easily eroded hilly country of the south. These eroded hills should be covered with forests.

As a woodlot owner in southern Michigan I would insist that the State agricultural college provide more forest extension specialists to teach the farmers how to take care of their woodlots, and especially how to market the forest products.

I would be particularly anxious to see that the streams were not polluted, so that the farmers in the lower stretches of the rivers could have as good fishing as the people of the north, with an unpolluted supply of water for themselves and their cattle, and swimming holes for their kids.

I would support the policy of the conservation department in assisting the farmers to propagate small game such as pheasants, quail, etc., as a possible additional source of revenue

I would favor studies on a much larger scale of means to prevent gullying, and for the retention of soil fertility on the hilly farms, by means of reforestation or other engineering works.

I would be for any measure that would help to beautify and make more wholesome life in the country. I would ask assistance from the State in planting shelter belts around my farm and my home, and in the safeguarding of my water supply. I would certainly support any measure that would prevent turning over my land without my consent for shooting or fishing purposes to any men in the city.

These are some of the thoughts that come to me when I look upon our conservation policies from the standpoint of a Michigan farmer interested in conservation.- Clipped from Development Bureau News, September 1, 1928.

SCIENTIFIC RANGE MANAGEMENT

WHAT IS IT?

By Paul H. Roberts,

Sitgreaves

A Ranger told me the other day that he had made a Management Plan for a certain allotment, had tried to put it into effect, but was having difficulty as the stockmen claimed it was impractical and would put them out of business. He said: "You know I'd sure like to get this Scientific Range Management into effect, but I don't want to put the stockmen out of business." I replied, "Maybe if it puts the stockmen out of business it isn't very scientific Range Management." He said, "There may be something to that too."

What is scientific Range Management? Is it salting away from water, seasonal use of the range, prevention of too early grazing, proper class of stock? No, these are simply some of the principles of scientific range management which if correctly applied are beneficial. What we are after is proper use of the forage resources; overgrazed ranges must be brought back, excessive erosion stopped, etc. We want betterment of range conditions on the ground. What we may have done in some cases in pushing scientific range management is to talk of some of the above principles in the abstract, with the result that plans may have been built around principles and then shoved at the allotments, instead of analyzing the needs on the allotment, and then picking out those principles which should be applied in order to secure improvement of unsatisfactory conditions.

We can not always apply the principles rigidly. Practical considerations in handling stock enter in. We may have to make the best use possible as winter range of an area upon which true winter range is not available; we may have to compromise on certain other principles, but nearly always even with these compromises, improvement will result, and that is what we are after.

If we analyze the individual range, determine what it needs, and then work out if possible with the stockman himself an improved method for handling it, which betters conditions and at the same time allow the stockman to stay in business, then, and only then are we getting true scientific range management.

There are cases, of course, where tree growth or other higher uses will eventually displace stock, but such cases do not apply to the matter in hand.

EDUCATE TO PREVENT FOREST FIRES

When reports come in, of so many forest fires started by human carelessness, it seems almost hopeless and almost needless to urge carefulness. And yet, when the situation is analyzed, it is found that real progress is being made in educating the public, effectively, to exercise greater care with fire in forested areas. The educational process must be carried forward without cessation or loss of zeal. Like every other good rule of action, this one must be stressed and restressed, preached and re-preached. The educational process must go on and on. Through the press, through the spoken word, by automobile stickers, by radio broadcasts - by every means and method that is practicable, the warnings that point out the seriousness of recklessness with fire should be sounded and re-sounded.

The Golden Rule has been preached for nearly two thousand years. And yet it is necessary to keep on urging this superlative rule of conduct upon humanity everywhere. Gradually, but surely, the Golden Rule is entering into the lives of men and women and controlling motives of conduct. By the same token, this Golden Rule of fire prevention must be emphasized, and urged, and persuaded into the minds and hearts of the masses of the people. --Pasadena Star-News. Clipped from D. 5 Bulletin.

INTERIOR AMERICA - 1803

By E. N. Munns, Washington

Both in history and in story we have been given to consider inland America before its settlement as an "unbroken wilderness." So universal has this conception been that foresters, economists, and writers have used the above phrase as well as "unbroken forest," "trackless wilderness," "dense forests," etc., without attempting to verify them. How far these are from the truth, is revealed by the diaries and descriptions of the early travelers in the Mississippi drainage. Thus one journal of more than unusual interest is that of Lieut. James S. Swearingen who at 21 years of age took the first contingent of soldiers across southern Michigan and northern Indiana, 362 miles, to establish Fort Dearborn, which developed into our inland metropolis of Chicago.

Lieut. Swearingen left Detroit on July 14, 1803, and arrived on the site of the proposed fort on August 17. His diary is unusually complete, is more accurate than those of most soldiers or explorers, and is full of side notes on soils, water courses, and vegetation. Some of his entries as to the forest and other cover on this route are of general interest, and some extracts are as follows:

July 14 - The land is generally good timbered with large oak, ash, and hickory.

July 16 - The land is generally level and poor, timbered with oak, several prairies, not of a good quality.

July 21 - The land is broken and barren, timber generally small oak, except the last 4 miles, which is fine rich land well timbered.

July 22 - Most of this day's march, is through level barrens, large prairies 9 miles through, soil not good.

July 23 - ...... well timbered, with large ash, oak, beech, hickory, sugar trees, etc. Several large grass swamps, much open ground.

July 25 - The first several miles were through a very handsome prairie (and then) through a small piece of tolerable (open) woodland. (Proceeded) through tolerably good oak land, timber very tall and handsome.

July 28 - The bank (along the river) is about 60 feet high, (with) level oak land back (from it).

AMERICAN FOREST WEEK

The Directors of the American Forest Week Committee have decided that continuance of the Committee as a national agency to promote the observance of the Week is unnecessary. This has unfortunately been misinterpreted as signifying that the Week itself has been abandoned. In reality the situation that existed before the Committee was organized, when leadership in arranging for the Week rested primarily with the Forest Service, has been restored.

It is hoped to develop plans for the coming year that will allow of larger latitude than in the past for adapting the Week to local needs and for local decision as to the kind, extent, and purpose of the observance to be sought. In particular, an effort will be made to plan the Week in such a way that regions which prefer to hold the observance earlier or later than the time set may do so without impairing the value of the Week as a national institution. Thus the aim will be to combine flexibility and a measure of "local option" with the fundamental idea of a call to the people of the United States by the President, to consider earnestly the need for sound public policies of forestry, and for individual action that will promote forest protection and wise forest use.

ON SCIENTIFIC WRITING

Dr. Edwin E. Slosson, Director of Science Service, a private organization of Washington, D. C., supplying services to the press of the country, has the following to say on scientific writing in a recent number of Science, a scientific weekly:

"Since it has been my lot for many years to earn my living by translating scientific literature into the vulgar tongue, I have often wondered why the writers made it such hard work to read the original language.

"If the difficulty were due to the profundity of the thought or complexity of the reasoning, then it could not be avoided. But I have found that important papers by the deepest thinkers were apt to be easier to follow than those by minor men dealing with comparatively trivial topics.

"Nor does the cause of the obscurity lie, as is commonly said, in the use of technical terms. The sports section or fashion page of a newspaper has as specialized a vocabulary as a scientific paper. Many scientists do, indeed, employ technical language unnecessarily in writing for the outside public, but even where the words are all familiar the meaning may still be obscure.

"I have come to the conclusion that the chief reason why scientific literature offers such high resistance to reading is the use of the alternating current instead of the direct in conveying the thought. The writer interposes a negative every few words that reverses the meaning of the sentence. This keeps the reader on the jump.

"The asymptotic ideal toward which scientific writing tends is a sentence structure something like this:

"'The present writer is indisposed to deny that he is unconvinced of the necessity of refusing to accept the infrequency of negative reactions as a not insuperable argument in the disproof of the theory.'"

"Such sentences may be quite logical and free from technical terms. They can be disentangled in time and when straightened out the meaning may turn out to be something simpler than it sounds. But they are constructed like the Chinese boxes. When you get one opened you come onto another. The process of extracting the meaning is like the simplification of a complicated algebraic equation, and in extricating the internested parentheses you are likely to come out with the plus and minus signs mixed." - From "The Official Record."

RANGE RESEARCH METHODS CONFERENCE

By W. R. Chapline, Washington

Through the courtesy of Dr. F. E. Clements of the Carnegie Institution of Washington a committee was called together at the Alpine Laboratory of that Institution from July 16 to 21 to consider ecological methods and concepts in grazing research. Besides Dr. Clements, representing the Carnegie Institution, and who acted as chairman, the committee consisted of W. R. Chapline, in charge Range Research, Director C. L. Forsling of the Great Basin Experiment Station and R. R. Hill in charge of Range Surveys and technical range administration, representing the Forest Service, Dr. Walter P. Taylor, Biologist of the U. S. Biological Survey and Dr. A. W. Sampson in charge of Range Management at the University of California representing the State Agricultural Experiment Stations. Mr. Hill and Dr. Sampson, however, were unable to attend this conference.

The primary objective was to take advantage of the experience and contributions of students who have entered the field of range research from different approaches and to refine and organize these into a body of tested knowledge of the greatest usefulness, especially with a view to securing greater uniformity in methods and concepts. In order to insure a comprehensive and fundamental treatment the fullest regard was had for the entire biotic community, including both plants and animals.

A provisional outline was prepared designed chiefly to call forth a full expression of views on the part of research workers. The threefold basis of investigation of habitat, including both climate and soil, vegetation, and animals, is considered essential.

The outline itself is divided into three sections in order to emphasize the three chief points of approach, methods and technique, concepts and terms, and general organization. Methods and technique falls logically into three divisions also, viz., the measurement of habitat-factors by means of batteries of instruments, the measurement and record of biotic communities by means of quadrats, transects, maps, etc., and the experimental control of conditions and organisms by exclosures, enclosures, cages, etc. Under general organization was considered cooperation and collaboration, application and practice, teaching, and other features of general interest.

It is hoped the response to the outline developed will make possible a fuller draft which can be made available to all.

THE LEAVEN WORKS

By Emma H. Morton, D.6

The sentiment of Frank L. Stanton's poem "I jest don't know ef de cotton'll grow, but I plants hit jest de same", might well enter into the spirit of Public Relations work. Some almost forgotten seed planted by D-6's Chief of Public Relations back in 1923 has just borne fruit. It happened like this: While on a field trip he saw on the walls of a country hotel a copy of a map issued by the W. E. Judge Map Co. of San Francisco, California, which contained some glaring errors, especially relating to the roads of Oregon and Washington. Later, Public Relations wrote a letter to the publishers, calling attention to the discrepancies and enclosing copies of the Forest Service maps for the two States, with the statement that they were at liberty to make any use desired of data contained in the maps and suggesting it would be a fine thing if the map company would print a fire caution slogan (from a suggested list) on all maps which they might issue in the future.

Then, on July 27, 1928, almost five years later, the following letter came from W. Elliott Judge, to which was attached the original letter, torn and dirty from handling, which Mr. Guthrie wrote him in 1923:

"Please note enclosed letter which you sent me over four years ago. I thought that it might be of interest to you to know that your letter finally produced results, and that we are now printing on thousands of maps your shield which reads: 'Prevent forest fires. It pays'.

"We have made a lithographic plate of the shield about 1½ inches square.

"Thank you for drawing the matter to our attention, etc."

Which goes to prove that you can't always measure PR with a yardstick!!

PATENTED SILVICULTURE

Can new methods of silviculture and forest protection be patented? Apparently they can. The German Patent Office recently granted a patent for a method of establishing wind-firm belts around the edges of forests. The method consists of cutting off 2/3 of the crowns of the outer row of trees, 1/2 in the next row, and 1/4 to 1/3 in the third row, thus spreading the force of the wind over more and shorter trees. Presumably, any one employing this method must pay a royalty to the holder of the patent. The idea of patenting forestry is not greeted with enthusiasm by German foresters, but it is not expected to go very far.

YE EDITOR DISCOVERS

Expenditures for auto mileage for the fiscal year 1928 were as follows:

District 1	27,831.75
" 2	25,068.70
" 3	26,082.00
" 4	29,300.53
" 5	51,234.99
" 6	43,156.82
" 7	24,169.85
" 8	54.34
Madison Laboratory	608.24
Washington Office and Experiment Stations	7,474.57
Total	234,981.79

The number of miles traveled was 3,356,882.

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The Georgia Forest Service held its first annual Junior Forester's Camp at the Vogel State Forest Park, Neel Gap Ranger Station, Union County, from June 20 to 30, 1928. The purpose of this camp was to extend practical knowledge of the relation of forest conservation to civilization, and to train students in forestry and campcraft, outdoor recreation, and the protection of wild life.

Among the faculty and staff were Professor Alfred Akerman, Asst. State Forester; Everett B. Stone, Jr., Asst. State Forester, and Captain Will A. Dietrick, Supt. of Vogel State Forest Park. The entire cost of instruction was borne by the State and a certificate and junior forester's badge were awarded to the ones completing the course with a grade of not less than 75 per cent.

A camp fee of $10 to cover living expenses was charged.

EARLY RAILROAD PASSENGER TRAIN BURNS PITCH PINE

The late Angus Sinclair, in his book on the Development of the Locomotive Engine, gives the following account of the first trip of a railroad passenger train in the State of New York, which took place at Albany on September 24, 1831.

"The original intention was to burn anthracite in the firebox of the engine, but a few experimental runs had proved that anthracite would not generate steam fast enough, so it was determined to burn pitch pine. There was no spark arrester, so the force of the exhaust threw out a volume of black smoke freely mixed with sparks, coal, cinders and lumps of half-burned pine. The sparks found their way into the eyes and ears of the passengers, down their necks, and into every crevice in their clothing. Those who carried umbrellas raised them to ward off the fiery downpour; but these soon took fire, and the train held a frantic crowd, who slapped out the flames, destroying their own and their neighbors' garments. People by the wayside supposed that the train was carrying a load of maniacs. Consternation reigned supreme, and many people thought of jumping before the engineer perceived the condition of affairs. By that time they were near a water tank, where a stop was made, and the burning garments were drenched with water. Many of the pleasure seekers had painful reasons to remember their first ride on a railroad train."

CLEMENTS & CLEMENTS' "FLOWER FAMILIES AND ANCESTORS."

By Doris W. Hayes, Washington

This is an unusually interesting and readable little book, well illustrated, and full of appeal to any lover or student of nature.

The colored flower chart at the beginning of the book forms at once the threshold and foundation for the text. It is simple and easily comprehended, but still capable of constituting a substantial basis for a practical knowledge of flower structure and family relationships of the flowering plants. It is simpler to use than the regular keys of the ordinary manual, and its applications are not limited to taxonomy but also prove instructive and helpful in morphology, pollination studies, and in flower evolution.

The aim of the book -- to inspire and foster in its readers the spirit of inquiry leading to a knowledge of life processes -- is well attained, although one is likely to receive the impression of a "conscious evolution" process, due to the popular style of presentment, when such is hardly intended.

On the whole, this book is well worth reading and is a valuable one to own.

SAO PAULO FOREST SERVICE

A Sao Paulo, Brazil, dispatch October 4 says: "The State of Sao Paulo, fearing the loss of its timber supply, has created a forest service to promote planting, to prevent fires, to combat insect plagues, to encourage the teaching of tree culture, and to prevent the cutting down of trees except where necessary. Landowners must get permission before cutting. The regulations are drastic but necessary, for firewood prices have been rising steadily in recent years. Some railway companies have planted eucalyptus trees to assure future supplies of firewood, but though several large areas have already been planted, destruction is going on rapidly. The State of Rio Grande do Sul has also planted a number of areas on account of the lack of firewood...." - From the "Daily Digest."

> In the administration of the forest reserves it must be clearly borne in mind that all land is to be devoted to its most productive use for the permanent good of the whole people. * * * Where conflicting interests must be reconciled, the question will always be decided from the standpoint of the greatest good of the greatest number in the long run.
>
> James Wilson, Secretary of Agriculture
>
> February 1, 1905

Service Bulletin

Contents Confidential

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DEVELOPING A POSITIVE IN FIRE PREVENTION

(From an address by Frank A. Fall, Director of Education and Research, National Association of Credit Men)

Fear is one of the most compelling of human motives. But it is essentially a negative rather than a positive impulse, and has the limitations that are always inherent in the minus as contrasted with the plus.

In the motive of fear we find the fountain source of the least admirable of human qualities, - indecision, procrastination and inability to meet squarely the problems of the day as they confront us. But in the opposite of fear, which is courage, we find the inspiration of the finest human qualities, - decision, promptness, thoroughness, and loyalty.

In fire prevention work we may never be able to put entirely behind us the appeal to fear as a motive for preventive action. But our program would, it seems clear, benefit by a whole-hearted shift of emphasis from the negative to the positive, from the motive of fear to the motive of courage.

It might seem, at first thought, more difficult to apply this changed emphasis to loss of life than to loss of property. Undoubtedly we have in the deaths and injuries caused by fire an argument for fire prevention that is unanswerable. Human life is undeniably far more valuable than any property. It simply cannot be measured in dollars. But even in our efforts to prevent these fire casualties, we should be able to find a way to strike the positive note. It is fundamentally a matter of expression. "If you do not do this and that," we have been saying, "your wife and child will be maimed or killed." Let us try a substitution, and say instead, "Do this and that, and secure for your wife and child a safe and happy life." The motive of fear may still be there, but it is kept in the background, where it belongs. It speaks to you, but no longer shrieks at you.

Turning to property loss, it is fair to ask what caused the reduction from approximately $560.000,000 in 1926 to about $478,000.000 in 1927. Was it warnings? Partly, without doubt, but I venture the assertion that positive urging to action, supported by specific technical recommendations, did far more to bring about this splendid result.

Philadelphia received the grand award in the Inter-Chamber Fire Waste Contest for 1927. What had happened in Philadelphia? Just this: Philadelphia had developed a positive in fire prevention. Its supremacy was registered as Senator Vandenberg said in his admirable presentation of the awards, in all possible elements that can contribute to the prevention of fire and the reduction of waste, -- education, publicity, investigation of fire causes, revision of building code, protection of public buildings, improvements to water supply, fire alarm system and fire department.

Philadelphia's total loss for 1927 was $4,230,275 as compared with $6,057,903 for the preceding five years averaged. In fires exceeding $1,000 loss, the total for 1927 was 410 as compared with an average of 838 for the preceding five years. Positive results followed unfailingly the use of positive methods.

In Class 2 (cities between 100,000 and 500,000 population) Grand Rapids, Senator Vandenberg's home city, won the award. The outstanding feature of the Grand Rapids program was announced to be the persistent publicity and educational campaign prosecuted throughout the year. More than 70,000 property inspections were made by members of the fire department. Special attention was given to training the local Boy Scouts in fire prevention work.

It is possible to see with less than "half an eye" that the whole Inter-Chamber Contest program is set up on a basis of positive action and positive results. We should bring our publicity and our complete propaganda machinery into line with this program, and let the world know that our slogan is "Do" rather than "Don't."

What happens in communities where fire prevention activities are centered in warnings? The immediate result, and in many cases the only result, is a spasm of carefulness on the part of individuals and business concerns. But if no positive action is taken to improve facilities or eliminate hazards, the last state of that community is likely to be worse than the first.

The warnings are good, as far as they go. They can, as has already been intimated, probably never be abandoned entirely. In certain circumstances they are imperative. "Smoky" Rogers, for whom we all have the highest admiration and respect, has unquestionably saved the lives of scores of children by telling thousands of them: "Don't play with matches." But he has saved lives also by telling the children exactly what to do in case their clothing takes fire. "Don't run, but roll over and over on the ground" is a perfect example of the combination and the correlation of the negative and the positive in fire prevention work.

In conclusion, the importance of publicity in this movement should be kept before us constantly. Ideas move, and work, and achieve results, only as they are expressed. Publicity is our organized expression of the faith that is in us.

Publicity is no longer limited to the newspaper or magazine article. Ideas are still spread by the printed page, and we should have the hearty cooperation of the editors and the owners of newspapers, magazines, and trade publications everywhere. But to the thousands reached by the printed page we may now add literally millions to whom the story may be graphically told by means of radio and the motion picture.

Access to the air, and to the silver screen in thousands of theaters from coast to coast, should make the next few years count mightily in fire prevention work. The story simply must be told, and it must be received in such a way as to lead inevitably to positive action. To have a part in this modern crusade is not merely a duty -- it is a high privilege.

"LEAVE HOPE BEHIND"

In the decade or so during which the problem of eliminating or at least reducing atmospheric disturbances has been given serious and systematic study we have learned, more or less definitely, what we can and cannot do in this direction. For example, we know that there are definite limits to what can be accomplished by frequency selection. We know that directional selectivity is of substantial value, particularly when the predominant interference comes from a direction other than that of the desired signal, and we can calculate pretty well the gain to be expected from a given design.

The object of this note is to analyze another arrangement which provides for high-frequency selection plus low-frequency balancing after detection. The broad idea of balancing out the interference is old, but no general analysis of the arrangement seems to have been made. Furthermore the principle of balance has recently acquired fresh interest due to the system disclosed by Armstrong in which high-frequency selectivity and low-frequency balancing are essential features. Armstrong's scheme is treated in more detail in the latter part of this paper.

The conclusions of this study are entirely negative, that is, no appreciable gain is to be expected from balancing arrangements. This is quite in agreement with the conclusion drawn over ten years ago as a result of a rather extended experimental study made in the Bell System. In fact, as more and more schemes are analyzed and tested, and as the essential nature of the problem is more clearly perceived, we are unavoidably forced to the conclusion that static, like the poor, will always be with us. - John R. Carson, Bell System Technical Journal, October, 1928. Mr. Carson is one of the Engineer-Scientists of the American Telephone and Telegraph Company.--H.R.K.

BEND BULLETIN MAKES STUART A NEAR-NATIVE SON

By Jno. D. Guthrie, D-6

We sure have to read the papers at times to learn something new! For instance, the Bend Bulletin (Oregon) of September 4, had this to say of Major Stuart, the Chief Forester:

"Although born in Oswego, New York, Stuart was once a resident of California his parents moving to the western state when Stuart was 10 years of age. Aside from being a graduate from the Yale school of forestry, Stuart also received a degree from the University of California."

Now, of course, what happened was that the Editor looked in his "Morgue" (where they keep biographical data and photos of celebrities) and fished out a page from Col. W. B. Greeley's life and stuck it into Stuart's! Our Forester is a good Pennsylvanian, born in that State, raised there, and he never moved to California at an early or any other age, and while he has plenty of college degrees, he hasn't one from California yet If we hadn't seen this item in a Bend, Oregon sheet, we'd certainly suspect it came from a California paper, for they recently referred to Crater Lake as "practically California". And a few years farther back, certain California promoters just wouldn't believe that the Oregon Caves were anywhere but in California!

"HEAD, HEART, HEALTH, HANDS"

By Emma H. Morton, D-6

It isn't every day that a GOVERNOR presents a fellow publicly, with a prize gold watch, but when the "fellow" happens to be a Forest Service product - the 13 year old daughter of Doug. Ingram of the District office, then the event assumes proportions quite out of the ordinary.

The handsome prize was awarded to Alice at the 1928 Oregon State Fair in recognition of her having attained the highest individual score (for girls) 99.6 per cent on "4th year's sewing" plus the highest score and blue ribbon at State and County Fairs for four consecutive years, in four different divisions of the 4 H club.

In addition to the watch, Alice was awarded a 2-weeks' scholarship at the Oregon State College and a week's vacation trip to the famous Crater Lake National Park, Oregon.

The 4-H, sponsored by our own Department of Agriculture is doing a tremendously worth while work in building better future citizens out of its 500,000 boy and girl members.

ROAD AND TRAIL CONSTRUCTION

By G. H. Lautz, Washington

The compilations prepared from the annual Road Financial Statements show that to date there has been constructed a total of 14,823 miles of roadway and 39,596 miles of trails. The total funds expended to July 1, 1928, were $89,597,405. This includes $16,879,493 cooperation contributed by State, County, and local authorities. The actual expenditures from the Forest Road Appropriations, i.e., 10 Percent, F.F.R.C., Section 8, Forest Highways and Forest Road Development Funds, were $71,153,778. The remaining $1,564,134 represents contributions from other Federal appropriations.

During the past fiscal year there were constructed 1,538 miles of road and 6,462 miles of trails. The total mileage of roads built was greater than last year. A decrease however was noted for major projects with an increase in minor projects. During this past fiscal year 15,683 miles of roads and 55,988 miles of trails were maintained, which represents an increase over the previous fiscal year of 1,089 in the former and 5,321 miles in the latter. The total amount expended for all work was $9,976,121, of which $1,263,479 was cooperative.

The roads constructed to July 1, 1928, by the Bureau of Public Roads totaled 4,113 miles and cost an average of $13,297 per mile. The highest average, $24,613, was in the State of California, while the lowest was the construction in South Carolina at a cost of $1,203 per mile. The minor roads constructed by the Forest Service amounted to 10,710 miles at an average cost of $1,350. The most expensive construction was in Alaska at $3,796 per mile and the least was that in Porto Rico at $72 per mile. The average cost of constructing all major and minor projects to date was $4,665.

Only 38 per cent of the present Forest Road System has now been constructed to a satisfactory standard. Another 39 per cent consists of existing roads of unsatisfactory type and 23 per cent proposed for construction. The trails have fared better than roads with 65 per cent of the total mileage as satisfactorily constructed; 8 per cent now being classed as unsatisfactory and 27 per cent proposed for future work.

The F.F.R.C. fund, representing a total appropriation of $9,000,000, is now practically exhausted, there remaining only a balance of $13,263. The Section 8 fund, composed of an allotment of $1,000,000 for ten years, now shows a balance of $298,957. The only continuing appropriations that now exist are the 10 Percent, Forest Highway, and Forest Road Development. These are the funds which must accomplish the construction of the Forest Road and Trail Systems required during the next ten year period and representing a transportation need at an estimated cost of $207,919,000. The Forest Highway System will require the expenditure of an additional $151,698,893 to complete the 15,272 miles included therein. The Development system of 39,285 miles will necessitate an allotment of $50,380,292, while the system composed of 128,347 miles of trail is estimated to cost $5,840,322.

At the present time out of the 6,651 townships within the Forest boundaries 32 per cent contain no roads whatever. With the completion of the proposed system this percentage will be reduced to 24. With this high percentage of townships without roads it is readily realized that the system as now planned is not very intensive.

INTELLECTUAL IMMORALITIES

(1) Carelessness in observations.

(2) Inaccuracy in determining units to be counted in statistical research.

(3) Slovenliness in logic, fantastic explanations.

(4) Generalizing beyond one's data.

(5) Confusing opinions with knowledge.

(6) Contentment with "discussion".

(7) Egoism allowed to crowd one to the invention of "new" theories for personal distinction.

(8) Inventing interesting theories for the sake of selling them in books, articles, lectures and conversation.

(9) Formulating an hypothesis on weak bases of facts, and then becoming blind to facts in opposition.

(10) Emotionalism during research. "I believe" instead of "I have proved."

(11) Opposition to a theory merely because of ignorance and stupidity, "I can not see how."

(12) Rushing into print with a report of research work that justifies no conclusions.

(13) Cowardice in supporting a verified generalization because it is unpopular and conflicts with selfish interests.

(14) Impatience, unwillingness to proceed step by step through a research.

(15) Indulgence in dense verbiage for the sake of appearing superlearned.

(16) Popularizing tentative generalization for the sake of personal publicity.

(17) Resort to the authorities, or to sarcasm and ridicule, against data, arguments and verifications.

- Fairchild
(Character Education Institution of Wash.)
Clipped from "Science."

TIMBER SALE AGREEMENT

Timber Sale Agreement covering the sale of 5,780,000 feet of western yellow pine purchased by the Saginaw & Manistee Lumber Company was approved September 13. This timber is located on the Williams Division of the Tusayan National Forest and was sold at $2.25 per M feet. The logs will be hauled by auto trucks direct from the woods to the company's mill in Williams. The agreement is to be completed by July 1, 1931. - District 3.

FROM AN OLD VOLUME

There is some that likes the city;
Grass that's curried smooth and green,
Theatres and stranglin' collars,
Wagons run by gasoline.
But for me a horse and saddle
Every day without a change,
And a desert sun a-blazing;
On a hundred miles of range.

Just a-ridin', a-ridin',
Desert riplin' in the sun,
Mountains blue along the sky line,
I don't envy anyone
When I'm ridin'.

I don't need no art exhibits
When the sunset does his best,
Paintin' everlastin' glory
On the mountains to the west.
And your opery looks foolish
When the night bird starts his tune,
And the desert's silver mounted
By the touches of the moon.

Just a-ridin', a-ridin',
I don't envy kings ner czars,
When the coyotes down the valley
Are a singin' to the stars
And I'm ridin'.

When my feet are in the stirrups
And my horse in on the bust,
With its hoofs a flashin' lightnin'
From a golden cloud o' dust
And the bawlin' o' the cattle
Is a comin' down the wind,
Then a finer life than ridin'
Would be mighty hard to find.

Just a-ridin', a-ridin',
Splitting long cracks thro' the air,
Stirrin' up a baby cyclone,
Rootin' up the prickly pear
As I'm ridin'.

When my earthly trail is ended
And my final bacon curled,
And the last great round-up's finished
At the Home Ranch of the world;
I don't want no harps nor haloes,
Robes, nor other dressed up things;
Let me ride the starry ranges
On a Pinto horse with wings.

Just a-ridin', a-ridin',
Nothing I'd like half so well
As a roundin' up the sinners
That have wandered out of Hell,
And a ridin'.

TALKING UNITED STATES

By P. A. Thompson, Colville

Amen! to Matt J. Culley's plea (Bulletin 9/3) for the use of common names for native range plants and the use of the everyday language of the cowman. As far back as 1921, I made a plea through the pages of the Bulletin for the use of common names and pictures in our plant bulletins as opposed to scientific and botanical names and descriptions.

After all is said and done, the conversion of the stockmen to the principles of better range and stock management is our objective. Practically all of the stockmen are unable or unwilling to undertake the formidable (to them) task of learning the scientific plant names.

From my experience as an administrative officer and from my own personal experience on three grazing Forests, I am pretty well convinced that the task of putting this across to the rank and file of the Service is quite a formidable undertaking itself. I wonder just how much progress has been made? My experience is that, in spite of no little effort on our part, the scientific names of most plants just naturally refuse to sink in and stay with us and my further experience has been that it is a waste of time to try to impress any cowman with a superficial knowledge of scientific names not backed up with a thorough familiarity with range terminology and a knowledge of how a cow brute lives, moves, and has her being.

TELL THE PUBLIC

Game and fish constitute a distinct asset to any State. This is not just an idle statement, but a fact that can be proved. Perhaps the greatest item on the favorable side of the ledger is the health and happiness of the millions of our citizens who go afield in the fishing or hunting season.

So great is this asset that it can not be figured in dollars and cents. But with cold calculation it is not hard to prove that fish and game have a money value. In dollars and cents the food value of the fish and game taken each year in any State will reach unbelievable figures.

Many times I have quoted Tom Wallace of the Louisville Times, and I wish again to call attention to the findings of this gentleman, who with figures proves that the fish and game in the State of Pennsylvania was worth more, figured at the price of cheap cuts of beef, than all of the livestock of the great State of Kentucky. Bear in mind that Kentucky is noted for its livestock.

The protection and care and increase of fish and game is a business, carried on by you commissioners. In order to be successful you must use up-to-date business methods. This is an era of advertising. Large corporations set aside funds to advertise their products that would have staggered many managing directors of only a few years ago

If a fish and game department is to be a success in the present day and age, it must advertise. Every commission should have its publicity department, which should be intelligently conducted by a man capable of doing the job right. The man in charge of such department should have newspaper training. He should have an eye for news and be immediately able to recognize material that will appeal to the newspapers.

Your publicity man should be chosen as carefully as any man in the organization. Don't demand quantity, but try hard rather for quality. The quantity production publicity man seldom gets the ear of the editor. Copy from such a fellow comes to an editor several times containing no items with a value, and into the waste basket it goes. From that time on, that particular man is laboring under a handicap to get anything over with the editor who has once discarded his stuff.

In order to convince the sportsman in whose interests you are working that you deserve his support, you must direct publicity at him. Tell him in the press what you are doing in his behalf; the numbers of fish that are being planted for him to catch; the covers that are being stocked with the money he spends for a license fee. Get his interest, and you'll win his support. Convince him through publicity that he is paying for the birds that are being released, and that they are his birds, and you'll find he will take more interest immediately in seeing that these birds receive the protection they must have. - By R. P. Holland in The Arkansas Conservationist.

RANGER'S RECREATION

By Lester Moncrief, Rainier.

The Ranger on the Rainier is getting more and more recreation work to do because it is being found that he can beat the Supervisor all hollow in the efficiency with which he handles it. For one thing, it has become too far-flung a job to be directed from the skipper's bridge. Exclusive of transient motorists, we have over 50,000 annual visitors, we have 17 summer home tracts with 359 surveyed lots, 25 forest camps to keep bunged out, 6 resorts and pay camps. And you ought to see our plans for near future expansion.

Atlas-sized recreation binders are kept in the Supervisor's office and the ranger district, with extra copies for use on the ground. These binders are indexed and contain reports and maps of units and individual tracts. Each tract map has attached a list of summer home lots or other uses with permitted names in proper places on the lists.

When the prospective permittee wants to select a lot, the Ranger or P.A. or auto patrolman grabs his binder and shows the available sites, going to the tract if necessary. The application is filled out right there, the applicant sketches his proposed improvements, and rushes off to mail his money order to the Fiscal Agent, no delay or red tape. The new name is already posted on the map list. The occasional application submitted to the Supervisor is sent the ranger for action. When the paid certificate returns, the Supervisor takes the permit, which has already been prepared in blank for the particular lot and enters the permittee's name.

The Ranger takes care of nearly all correspondence, and settles all squabbles.

The results of giving the Ranger his own business to attend to are, as one might say, entirely salubrious. Each case is speeded up, the Ranger has more personal contact with permittees and more accurate knowledge of conditions. And by eliminating most of the correspondence between Supervisor and permittee, and Supervisor and Ranger, paper work is cut to less than one-fourth of its former volume.

GROWTH PLOT ESTABLISHED IN PLANTATIONS

While on the Siuslaw, Munger and Kolbe established a one-acre permanent sample plot in a 1912 plantation as a part of the series of growth plots for the Douglas fir type. The area had 557 planted Douglas firs now alive, and in addition a few volunteer alder, willow, and cascara. None of the planted trees were dying from suppression, although the lowest limbs were dead on about half of them. This stand already has a forest appearance and the eleven-foot bracken fern is pretty well killed out; there are 145 Douglas firs over 6 inches in diameter, and the tallest run up to 46 feet. - From Monthly Report of Pacific Northwest Exp. Station.

> In the administration of the forest reserves it must be clearly borne in mind that all land is to be devoted to its most productive use for the permanent good of the whole people . . . Where conflicting interests must be reconciled, the question will always be decided from the standpoint of the greatest good of the greatest number in the long run.
>
> James Wilson, Secretary of Agriculture
>
> February 1, 1905

Service Bulletin

Contents Confidential

Vol. XII No. 47 Washington, D. C. Nov. 19, 1928

A COMPREHENSIVE RECREATIONAL PLAN FOR THE MT. HOOD AREA

By R. Y. Stuart

The Committee appointed by Secretary Jardine to make a study and advise him on the necessary measures to take for the development of recreational and scenic values in the Mt. Hood area submitted its report on August 29. While the immediate occasion for the selection of the committee by the Secretary was to consider the advisability of granting a permit to construct a tramway to the summit of Mt. Hood, the committee was requested to consider as well and in connection with it the needful things to do if the entire area were developed for its recreational and scenic values.

In the committee's report the comprehensive treatment of the entire Mt. Hood area was advocated. The committee recommended approval of the tramway application, the establishment of two designated wilderness areas, the retention at their present levels of Wahtum and Lost Lakes, the construction of certain roads to give portions of the area greater accessibility, and the creation of recreational councils in each National Forest State to advise the Department of Agriculture on recreational projects.

In his letter of October 19 to the chairman of the committee, the Secretary expressed appreciation of the broad approach to the question taken by the committee and indicated his desire before passing finally upon any major feature of development of the Mt. Hood area, such as the tramway, to have a very comprehensive study and plan made of the area as a whole, with the continued cooperation of the committee. To accomplish this purpose the Secretary has directed the Forest Service to seek the advice and cooperation of men prominent in this field who, under the leadership of Prof. Waugh, a collaborator with the Forest Service in recreational problems since 1919, and with the cooperation of the committee, will undertake the study next spring.

The significance of the Secretary's decision lies in the new approach to the treatment of recreational and scenic values on the National Forests. It opens the way to a greater recognition of these values and the comprehensive treatment of them in coordination with timber, water, forage and other National Forest resources.

R. Y. Stuart

LET'S BUY A TON OF FOREST FIRE PREVENTION NEXT YEAR

From Sunset Magazine

The Forest fire season is over. Once more the Far West looks over hundreds of thousands of blackened areas and prepares for the damage of the winter floods rolling down from the denuded lands. Once again the Far West scratches its head and wonders whether there isn't a better way to control forest fires than the present one.

There is. For many years the various progressive states and the national government have opened their purses wide and paid money without stint for fire suppression, yet every forester has known that fighting a forest fire after it has started and gained headway is a most expensive and ineffective method. The efficient way to minimize forest fire damage is the preventive and preparatory method.

Through posters, publicity and camp fire permits we are now trying to prevent the outbreak of man-made fires. This campaign has been and always will be only partially successful; someone will always be careless. But no campaign of education will ever teach lightning to keep out of forested areas. Fires will always start in the forests of the West. After doing our best to hold down their number through a preventive campaign, the next step obviously is to make really adequate preparation to suppress the fires before they get a real start.

And in this preparatory work the states and the Federal Government have been woefully deficient. At every fire it is the same story: Armies of men are hastily gathered; it takes them many hours to reach the remote mountain sides on which the fire is raging. By the time they reach the scenes, the small blaze has spread and become a conflagration.

Speed in reaching a fire is the first essential. That requires a far better system of roads and trails than is now available. More roads and trails must be built, more lookout towers must be provided, better fire fighting equipment in much larger quantities must be kept on hand constantly. And after the fire has started, it should encounter a firebreak, no matter in which direction the wind might drive it.

One week's rain falling on mountain slopes denuded by a fire the previous summer caused a damage exceeding $6,000,000 in the small San Gabriel Valley of California. Irrigators, power companies, cities, campers and stockmen all suffer from the effects of forest fires just as much as the owners of the destroyed timber. In the past Uncle Sam has been spending two dollars for suppression for every dollar spent on prevention and preparation. Now is the time to put in several tons of prevention and preparation to save the suppression-dollars and hold fire damage down to the minimum. The present policy of niggardliness in expenditures for prevention and preparation, of open-handed, wasteful prodigality in suppression, has to be changed. A sizeable investment now in prevention and preparation will reduce the cost of suppression in the future. D-5 News Letter.

FOREST SERVICE HALLOWE'EN PARTY

The Washington office had a Hallowe'en party. And what a party! Most of the folks wore fancy costumes -- becoming, startling, or otherwise. A dash of Wild West flavor was added to the Eastern atmosphere by a bull-fight, which must have been a howling success for everyone howled ecstatically, especially when the "bull" couldn't be dragged out of the door to the "arena" on account of its size. The only casualties were a few sore muscles next day among prominent members of the Washington force.

L. C. Everard and an equally acrobatic assistant did some stunts which made the audience hold its breath as flying feet approached the ceiling. Dancing was then in order and thoroughly enjoyed. Prizes for the most unique costumes went to Mr. and Mrs. Will C. Barnes, in their garb of a knight and lady of mediaeval times. M. S.

A VISIT TO NEW YORK WOODLOTS

By E. F. McCarthy

A recent trip into New York State gave me an opportunity to see the progress of recovery of woodlots which I knew in my earlier life.

An area of eighty acres which is now a preserve under the supervision of Cornell University, known as the McLean Forest was a playground of my boyhood days. This entire tract was logged to a local mill and all of the hardwood unsuitable for sawlogs was cut into firewood and sold in the local community. This clear cutting operation which extended over a period of about eight years to about 1900 has been followed by a thrifty stand of hardwoods with a small representation of hemlock. The striking feature of this second growth is the prevalence of black cherry, white ash, elm and red maple on land which formerly supported a beech-sugar maple-hemlock type.

In addition to this instance of clear cutting in the hilly portion of New York, many woodlots have been cut after a crude type of shelterwood practice. These woodlots have now passed through a period of thirty to forty years since the time of general logging to local and portable mills. While grazing has been practiced to some extent, grazing damage has not been as severe as in the woodlots of the Ohio Valley. Fine pole stands of sugar maple, beech, yellow birch, black cherry, red maple, white ash and elm now occupy these woods and are quite largely of seedling origin. On north slopes and moist flat land, hemlock has established itself in considerable quantity. This seems to be taking its place in the crown cover and is growing thriftily. White pine in the southern tier of counties of New York was observed to be seeding very well in the open fields and along the margin of the woods. Many scattered seed trees of white pine which were too small to log were found through this section. The general impression created is that the woodlots of New York have passed through a rest period which has enabled them to recuperate from their early heavy cutting. Since they have never been subject to fire they promise soon to produce a cut of timber. Their condition is superior to that found in sections of the Ohio Valley where the cutting of the overstory of oaks and other valuable hardwoods has allowed a suppressed and crippled understory of beech and maple to seize the crown cover in the new forest.

The condition of New York woodlots is also superior to areas of oak timberland heavily cut for charcoal wood and consequently largely of sprout origin which were subsequently damaged by surface fires and by culling for ties.

COOPERATIVE FIRE FIGHTING UNITS FUNCTION

By T. H. Sherrard, Mount Hood

Response by cooperative fire-fighting units on a fire on Pleasant Ridge in August within an area protected by the Forest Service for the State of Orgeon was noteworthy.

The fire was sighted by a lookout who in the absence of the District Ranger from his headquarters called directly upon a cooperative key man. This man was threshing at the time not far from the fire and left immediately with his threshing crew. A second and larger cooperative unit was called upon and responded fully equipped with their own truck; standard fire-fighting tools supplied this unit in advance by the Forest Service and their own cook, cooking equipment and grub. They had even brought two barrels of water, knowing that it would be a fire on which it would be necessary to haul water a considerable distance. The timekeeper for the unit had fire-fighter contract forms signed up, time slips, and a first-aid cabinet. This unit was headed by the manager of the Tum-a-lum Lumber Co., of The Dalles. It hit the fire just before dark in good season to relieve the first cooperative unit which had been fighting fire since noon and to take over the fire for the night.

The Forest Service trail crew came a long distance and was the third outfit to reach the fire, arriving soon after The Dalles cooperative unit. The Dalles unit was released the following morning and the Forest Service took over the fire without further outside help.

The response of the two cooperative units on this fire demonstrated convincingly the value of such outfits thoroughly organized, equipped, and trained ahead of the fire season. Such units can often, as in this case, reach a fire hours before the Ranger can assemble a crew, and sometimes it happens, as in this case, that the Ranger's cooperatives can start initial action on a fire even before he knows that he has the fire.

PUBLICATIONS WANTED

The District Forester at Denver is anxious to get a few copies each of the following bulletins:

Department Bulletinee No. 207 - The Cypress and Juniper Trees of the Rocky Mountain Region

Department Bulletin No. 327 - The Spruce and Balsam Fir Trees of the Rocky Mountain-Region

Department Bulletin 460 - The Pine Trees of the Rocky Mountain Region

Department Bulletin 680 - Miscellaneous Conifers of the Rocky Mountain Region

The Washington office supply of all of the above is exhausted. If any district or individual member has copies that are not needed they could be put to good use by sending them to the District Forester at Denver.

GENIUS

The ability that elevated_______to the presidency of the__________National Bank, has been devoted to a triumphant search for a solution of the pressing problem of "How to find a parking place."

Mr.______solves it this way: He marches over to a taxi-cab that has a desirable parking place, rides a short distance for 20 cents, and gets out. Meanwhile his chauffeur drives Mr.___'s machine into the space vacated by the cab

DEMONSTRATION TRIPS

One of the significant demonstration trips made in District 2 during the last six months occurred on the Colorado. The Chamber of Commerce of a nearby town was asked to protest against a timber sale because of the effect it would have on the appearance of an improved scenic area. The Chamber of Commerce decided to withhold any comment until they had investigated, so a meeting was arranged on the ground, including all parties concerned. Not only were Forest Service plans and methods of cutting demonstrated (these were reasonably well understood) but the significance of local factors and conditions fully explained, such as overmaturity, unfavorable site, relation of insects and disease. In addition, a detailed plan of administration worked up sometime before, was produced to show the thought which was given by the Forest Service to the correlation of the various uses involved. By this thorough demonstration Supervisor Kreutzer not only forestalled a protest from the Chamber of Commerce, but convinced the original protestants that the final administration was sound and to the best interests not only of the Government but also of the surrounding communities vitally concerned with local development. Apparently there is no argument like facts and there are at our disposal few means of demonstrating these of equal value to the "show-me" trips. - From District 2 Phantom Conference Report, October, 1928.

FIRELESS FRANCE

Those who believe in the legend that France has no fire problem or does not have fires will be interested in some of the fire history of 1927. Thus in the "Department des Alpes-Maritimes" 4.8 per cent of the forest area was burned in 104 fires, of which 43 were between 25 and 250 acres, and six were more than 250 acres.

In the "Department du Var", 68 fires burned 635,000 acres, or 8.4 per cent of the forest area. Of the 68 fires, 15 were more than 250 acres.

The causes of these fires are much the same as those in this country; carelessness with fire is placed first, smoking being given first rank, followed by campers. A new one is brought to light "troops on maneuver." Woodsmokers, railroads, and incendiaries also were troublesome. - E. N. M.

AN OPEN SEASON ON THE RED SQUIRREL?

Bernard Frank

Apropos of the destructive habits of the red squirrel, some striking evidences of the damage done to young timber were noted last summer during a trip through the spruce-fir type in the Yew Mountains of southeastern West Virginia.

The method of attack of this aggressive species of "varmint" consisted in viciously stripping or chipping pieces of bark from the trunks, top, or branches, depending upon the size of the tree. Hard maple, soft maple, beech, black birch, and yellow birch were the most frequent victims, red spruce and fire cherry being occasionally "chewed up," and more rarely wild or black cherry.

While we personally saw none of them in action, our guide, a woodsman of high repute, informed us that he had often observed the squirrels, in following their nefarious pursuit, chipping off pieces of bark, then merely sucking an instant on the exposed wood, otherwise deriving no nourishment by way of eating either bark or wood. This statement we carefully checked (of course we would be skeptical) by noting the teeth-marks and the piles of bark chips at the bases of the injured trees.

While trees over 10 inches d.b.h. were sometimes attacked, no material damage was done, the task of girdling the trunk evidently proving too much for the animal. In one case, however, we found a large limb on a 10-inch beech which had been killed in this fashion.

The most serious effects were apparent in the smaller diameter classes up to 10 inches. Here they would chew off the bark around the stem, especially near the top. Many clumps of beech, birch, red maple and red spruce were observed with the bark on the tops entirely peeled off by these vandals.

Why the activities of the red squirrel were confined to the spruce-fir type, no cases being noted of damage in the hardwood types, I cannot say. Perhaps some of the boys who are out in the timber more than I can answer through these pages.

THE FUTURE

Wilson Compton, Secretary-Manager of the National Lumber Manufacturers Association speaking before the Kansas City Chamber of Commerce told them that in the future --

1. There will be fewer sawmills. The small ones will be smaller and the large ones larger.
2. Retail yards will continue as the principal and preferred channel for the local distribution of lumber for building and general uses, but there will be fewer of them.
3. Fewer wholesalers and these will become in substance either selling agents of definite groups of mills or purchasing agents for definite groups of consumers.
4. The day of the commission man without fixed connections is near the end.
5. More lumber will go into industrial uses and less into buildings.
6. Lumber will be much more completely refined, seasoned, and fabricated before shipment.
7. There will be vast developments in wood pulp and chemical products making possible the use of smaller timber and eventually the practically complete utilization of the tree.
8. The lumber business will become more and more of a diversified wood conversion industry and less of an exclusively sawmill and planing business.
9. The portable mill will be a declining factor in the lumber industry and within the next quarter century will take its place alongside of the neighborhood grist mill in the flour industry and the village cobbler in the boot and shoe industry.
10. Grade marked, guaranteed lumber of skillful manufacture, bearing nationally advertised makes, careful refinement and expert grading will become the generally accepted public standard for lumber.

National Lumber Bulletin.

YE EDITOR DISCOVERS

From a list of silvical investigations being carried out at one of the Experiment Stations - the following:

Project -- Forest fire weather

Scope ---- To determine what constitutes fire weather, the extent to which, and how, it may be _fostered_, etc., etc.

An Assistant Forester - who shall be nameless - suggests that the transcriber of the above may have been unable to read the handwriting of a certain other Assistant Forester - who shall also be nameless. The first Assistant Forester insists on being nameless because, he says, he himself has a touch of chirographic ambiguity.

E. H. MacDaniels, District Forest Inspector, handling cooperation in fire protection and planting work in D-6, has been on detail in Washington for a month. He left last week for home.

"Fitz" Fitzwater tells us he noted in The Timberman for October a caterpillar tractor advertisement in which the "cat" is said to be an important factor in selective logging, making more practicable the taking out of big stuff and leaving the small stuff free from damage. We understand that the Management crowd have also been advocating this selection method of handling timberlands.

Hank Wold says the next step in appropriation estimate procedure is the appearance of the Forester before the - just a minute - before the Agricultural Sub-Committee of the House Committee on Appropriations. Hearings for the Agriculture Department start on Nov. 15, and the Forest Service will be reached around the twentieth.

Hank says further that when there is a Short Session, the hearings are held much earlier than usual. Last year it was after Christmas before they were held.

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SAVE THE WILDFLOWERS

To the Editor of The Star:

The Kensington Railway Co., owning quite a strip of land extending north to Chevy Chase Lake through the town of Kensington, and owning also a number of acreage tracts along this line of railway, cordially invites residents or visitors in Washington who came by auto or on cars to gather wild flowers, such as the wild astor, phlox and other flowers now in blossom, or Autumn leaves, without fear of trespass signs along the railway. This suggestion is extended out of courtesy to people who have slight opportunity to gather wild flowers in the suburbs.

Secretary of Kensington & Sandy Springs Railway Co.s

THE D. A. R. AND FORESTRY

The Conservation and Thrift Committee of the Daughters of the American Revolution have in their program for the coming year three Honor Rolls as follows:

- Tree Planting Honor Roll
  - A tree planted for every member in a State
  - A tree planted for every member in a Chapter
- Chairman Honor Roll
  - A Chairman of Conservation and Thrift for every Chapter
- New Honor Roll
  - A D. A. R. Forest for every State

Among the subjects outlined in the program are: Study of Nation's problems; preservation of forests; reforestation; fire prevention; State nurseries; American Forest Week.

Mrs. Conway of the Washington Office of PR has been doing some nice work with this large national organization of women.

DEER HUNTERS AND FOREST PROTECTION

By E. N. Kavanagh, D-6

A very unusual situation developed in Oregon shortly before the tenth of September this year. On that date the deer season throughout the state was supposed to begin. Deer hunters from far and near had made their plans to go out on the annual hunt. Some from neighboring states had incurred considerable expense in coming to the Oregon game fields. Many local residents had postponed their annual vacations until the tenth of September. Everything, as far as hunting was concerned, was set to start with a bang on September 10.

No moisture worth speaking of had fallen in the forest regions of Oregon since July 5. The woods and underbrush were dry as tinder. A smoke pall hung over the forests, and the lookouts and fire detection agencies were badly handicapped. Owners of timberland and Forest Service officials were fearful that turning loose thousands of hunters into the woods might become a menace to the timber resources of the state. It was recognized that the hunter, as contrasted with the fisherman and recreationist, would not spend his time along streams or at camp grounds, but would go deep into the woods and inaccessible places and therefore could not help but be a greater danger from a protection standpoint. It seemed that the situation demanded some action that would safeguard the timber resources from the danger that threatened them.

On September 7, Governor Patterson issued a proclamation postponing the opening of the hunting season until September 20, with the understanding that it would be opened immediately if rain occurred before then; and in case there was no rain by September 20, another proclamation was promised to close the season until a later date. The Governor's proclamation caused great disappointment to the deer hunters throughout the state, and a few threatened to defy the Governor. Many hunters were already in the woods, and it was claimed that, not knowing the proclamation had been issued, they would go ahead on their hunting trips, and it was not right to let them do so and deny others the privilege. It was claimed also that hunters were not a fire menace; that they were always careful with fire; in fact, almost every argument that a disappointed deer hunter could think of in his own favor was advanced as a reason why the proclamation should not be issued, or having been issued, was unfair.

The situation was rather tense for a day or so, and then the Forest Service on September 8 put some additional teeth in the Governor's proclamation by ordering all the National Forests in Oregon and Washington closed to all travel and use except along regularly-used roads and at regularly-established camp grounds. Thus the state and federal authorities responsible for the protection of the forest resources in the state of Oregon, which produce 65 cents out of every dollar's worth of business in the state, united in their efforts to protect the forests from an unnecessary hazard. The combined action of the two principal agencies had a very quieting effect upon the rabid hunters, and even the average hunters, and reports indicated a surprisingly good compliance with the closing and non-hunting requirements.

On the tenth light rains fell in some portions of the state, and rain fell quite generally on the eleventh. On the morning of the twelfth, the Governor revoked the hunting ban and the Forest Service opened the National Forests.

It was gratifying, after all was over, to find that most of the hunters appreciated the motives of the Governor and the District Forester in the action taken. To those who were inclined to defy either one or both, it can readily be said that they are neither good sportsmen nor good citizens, which opinion is substantiated by numerous editorials in papers throughout the state. While seemingly very drastic, the action taken was necessary under the circumstances. The necessity for forest protection was brought home forcibly to many sportsmen, and to others it was made clear that it is more important to the people of Oregon to protect the forests from fire than to allow a few hunters - a comparatively small proportion of the population - to kill deer, or even to go hunting for them.

In the administration of the forest reserves it must be clearly borne in mind that all land is to be devoted to its most productive use for the permanent good of the whole people. • • • Where conflicting interests must be reconciled, the question will always be decided from the standpoint of the greatest good of the greatest number in the long run.

James Wilson, Secretary of Agriculture
February 1, 1905

FOREST SERVICE U S DEPARTMENT OF AGRICULTURE

Service Bulletin

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THE CALL TO ARMS

By John H. Hatton, D. 2.

President Roosevelt called the first American Forest Congress in January 1905, nearly a quarter of a century ago. It was not only by far the most successful meeting devoted to Forestry this country had ever had, but it has gone down in history as one of the most striking gatherings ever given to any economic subject. Its purpose was to establish a broader understanding of forests in their relation to industries depending upon them, to advance the conservative use of forests for both the present and the future needs of industries, and to unite all efforts to perpetuate forests as a permanent resource of the nation. Does "Forests in Industry" have a familiar sound today?

A number of us were present at that conference. Many distinguished foresters and citizens of the nation who took prominent part in the gathering are no longer with us, but their work and influence will live on.

Mr. Roosevelt's address to the convention was a ringing "call to arms" and his emphatic stand on forests and other national resource questions easily gave him first place among the nation's conservationists. In this statement I would not omit Mr. Gifford Pinchot, then Chief Forester, who worked hand in hand with the President and to whom, no doubt, is due equal credit for the national conference idea. It is most interesting to recall the thought and to summarize the conclusions of that conference in their bearing upon subsequent accomplishments and present day conditions. It recommended and resolved:

That Congress and all legislative bodies give full protection to the forests of the country and preserve them through wise and beneficial laws that they might contribute in the most complete manner to the continued prosperity of the country....

NOW, witness that practically every State has promulgated laws to these ends. Also note the important national laws now in effect. Instance American Forest Week and the present national concepts on the whole subject.

That we earnestly commend to all State authorities the enactment of laws for the protection of forests from fire and for reducing the burden of taxation on lands held for forest reproduction....

NOW, (see comments under resolution 1) Thirty-eight States, I believe, - all of those having important forest areas excepting Arkansas -- have laws bearing on forests and fire protection. Instance national fire prevention week, etc. The taxation question is still one of the most prominent considerations in forest economics. It will yet be better remedied. The present exchange law is a long step in this direction.

That we are in entire accord with the efforts to repeal the Timber and Stone Act, and we favor a substitute law allowing the sale of timber on public lands when for the public welfare....

NOW, Both accomplished.

That we favor an amendment to the law regarding exchange of lands in forest reserves which shall be limited to lands of equivalent forest value.

NOW, Present laws accomplish the idea. The lieu selection law, a much abused one, was repealed.

That the law prohibiting export of forest reserve timber from the State in which it is grown, be repealed.....

NOW, Done.

That we favor a law authorizing the sale of all non-mineral products in forest reserves, the proceeds to be applied to management and protection and the construction of roads and trails....

NOW, Partly in effect for a time but now accomplished in other ways. Receipts for various forest products today from the National Forests exceed $5,400,000.

That we heartily approve the immediate unification of all forest work of the government, including the administration of the National Forest reserves, in the Department of Agriculture....

NOW, Done by act of Congress one month after the conference (February 1, 1905).

That various rights of way acts in forest reserves and on public lands be amended to provide for reasonable payment for the use of these valuable rights...

NOW, Instance charges for water power and other uses.

That we urge upon all schools, especially rural schools, the necessity for the study of forests and tree planting in their effect upon the general well-being of the nation....

NOW, Great strides have been and are now being made in this and there is much yet to be done, especially in accomplishing "fire-mindedness" in 100 per cent of our citizenry.

That we recommend increased opportunities for general forest education in schools and colleges....

NOW, Instance the increased number of institutions throughout the country which have made provision for this class of instruction, and their annual products in professional foresters.

That we urge the immediate passage of bills for the purchase and establishment of forest reserves in the White Mountains and southern Appalachians.

NOW, Witness our present District Seven.

That we endorse the movement for the purchase of the Calaveras Grove of big trees, and the reconveyance by the State of California to the National Government of the Yosemite National Park.

NOW, Both Accomplished.

That we urge tree-planting and the preservation of shade trees along public highways....

NOW, A nationwide program.

That the Territory of Oklahoma be empowered to offer school land occupants a reasonable tax reduction during a stipulated period for growing windbreaks....

NOW, I believe this was done before the Territory became a State.

That the National Homestead Law be amended to require the planting of at least 5 per cent of a homestead to trees, under the supervision of the Bureau of Forestry, before final title be acquired....

NOW, This was not accomplished but there is a general urge, often accompanied by action, throughout the country in growing forests where timber growing is practical. Sound policies and State programs are being adopted rapidly.

It will thus be seen that the first American Forest Congress had visions which have become practical realities, almost without exception in the forestry program of our country. With the foundations so well and enduringly laid, who can say what the next quarter of a century will record?

A LETTER FROM COLONEL GREELEY

My dear Major Stuart:

I greatly appreciate your letter of October 13, giving me further information about the sudden death of Girvin Peters. Peters' leaving us has been a very severe shock to me on account of our deep friendship and close association for many years and also on account of his vital part in the work of the Forest Service. It is, in fact, hard to think of the Service without "Pete." His fine personality gained a permanent hold upon all of us just as his official work for many years built an enduring part in the structure of public forestry.

Girvin Peters was one of the group of real leaders who shaped the early work and policies of the Forest Service along the lines that were successively developed step by step and which formed the permanent framework upon which the progress of the Forest Service has and will continue to grow. We will never think of the great development of cooperation with the States in forestry without thinking of Peters as its founder and leader, and as the man who more than anyone else through his own unremitting work over many years developed its various phases with a sure touch and with an accurate vision of future growth. It was Peters who saw the opportunity, Peters who nursed our cooperative work through its early and tentative stages. and Peters who largely designed and carried out the plans upon which the cooperative work of the Service has grown to such commanding proportions in more recent years. We may all rejoice that, untimely as was his death in the prime of his public service, he had the satisfaction before going of witnessing the fine development and spread of the cooperative work of his own planning.

The Forest Service takes justified pride in its cooperative work with the States as an example of federal and state relations in which there has been a full recognition of the mutual interests in forestry, an unswerving purpose to build up and strengthen the work of the States, and an effective translation of that purpose into methods that gave state effort full recognition and the effective support of the National Government. These are the primary reasons why our cooperative work with the States has grown with such vigor and gained such momentum during a period when many other forms of federal cooperation with the States have been under public criticism or challenge. And, here again, we find the reason in Peters' broad understanding of state problems and viewpoints, in his vision of the opportunities for state forestry, and in the unfailing warmth and sympathy of his personal relations in this work.

Herbert Smith has well labeled Peters as a "builder". He was one of the real builders of public forestry. He was a splendid type to all of us of the public servant, working with unremitting zeal in his own chosen field, never yielding to discouragement and never losing the vision of the opportunities ahead. His going is a very real loss to the Forest Service and to forestry; but while we lament his death as a friend and co-worker, we have the deep satisfaction of knowing that his work will endure and that the monument to his public service has already been erected.

Very sincerely yours,

(Signed) W. B. Greeley

THE WICHITA FOREST A CONSERVATORY OF INTERESTING FAUNA

By R. R. Hill, Washington

The Wichita National Forest is well adapted to a wide variety of interesting animals. There are being propagated in this one locality many of the important species of birds and animals that were common in the Southwest during the pioneer period of its development. Among these species are longhorn cattle, buffalo, antelope, elk, white-tail deer, black bear, several smaller fur-bearers, turkeys, prairie-chickens, quail, ducks, and geese. Fish have been planted in Lost Lake, the principal body of water on the Forest. The grazing of domestic livestock is restricted to about 3,000 head of cattle. With the large recreational use being made of the area it presents interesting and varied problems. It is coming to be recognized as a field laboratory in which intensive studies of wild life can be made and sound plans developed and applied.

The following information regarding long-horns and wild life conditions on the Forest has been extracted from the Supervisor's annual Fish and Game Report for this year.

In spite of the prolonged summer drouth the longhorn cattle have done exceedingly well. They are fatter and more thrifty than native cattle in the vicinity. A yearling bull procured with the original herd has developed into a fine type of animal and will doubtless make a splendid herd bull. Several yearling heifers that showed Brahma breeding have been exchanged for good representative longhorn cows shipped in from Chihuahua, Mexico. With this increase in the breeding stock the prospects are good for a satisfactory development of the herd.

The largest crop of buffalo calves yet recorded from the herd of 197 animals was raised this year. The calves include 30 bulls and 22 heifers. Losses in the herd have been negligible. The oldest cow died at the age of 29 years. The oldest living specimen in the herd is "General Lawton", a bull 25 years old - the only animal left of the original herd brought from the Zoological Gardens of New York in 1907. It is proposed to keep this bull in a pasture where he will be unmolested in order to secure additional information regarding the longevity of the buffalo.

A severe hailstorm in June killed a number of elk calves as well as deer and antelope fawns. It also destroyed a large proportion of the crop of young turkeys. Other game birds such as bobwhite quail managed to escape severe losses from this storm.

Wild turkeys thrive in the Wichita region if adequately protected but unfortunately the flocks have been greatly reduced during the last year by the severe hailstorm and by poachers who killed a good many birds that drifted off the Forest in search of food.

Prairie chickens were native on the Wichita Forest but had entirely disappeared as a result of poaching and destruction by varmints. Fifteen were contributed in 1927 by the Oklahoma Fish and Game Commission in an effort to reestablish the species in this region. These birds give promise of increasing satisfactorily.

A good many predatory dogs belonging to settlers in the locality must be included with the coyotes and other enemies of wild life on the Wichita. In order to control the predatory animal situation the local Forest officers are cooperating with the State Game and Fish Commissioner of Oklahoma in developing a more favorable local sentiment toward wild life conservation. More effective destruction of predatory animals will have to be secured since local trappers have failed to control this menace to wild life.

A great deal of local interest has been aroused in the project sponsored by the Forest Service and the Biological Survey of introducing seven head of Rocky Mountain sheep presented to the Department of Agriculture by the Canadian Government. These animals will be received this fall.

FORESTS WHILE YOU WAIT

Trees that were planted with grub hoe sixteen years ago are now being measured with calipers and hypsometers and their contents computed in board feet and cords. The erstwhile "planting project" on the lower slopes of Mt. Hebo on the Siuslaw National Forest has become a forest with but a short wait. Bracken fern, salal and blackberry have given away to serried ranks of Douglas firs up to 8, 10, and even 12 inches in diameter and 45 feet high.

On an area planted 6x6 with 1-1 Douglas fir in the spring of 1912 a permanent growth plot was established recently to see what this wood fiber factory was doing on this favored site. An acre in a fairly well stocked, but not uniformly fully stocked, part of the 8000 acre plantation, has 555 living Douglas firs, besides a number of volunteer red alder, cascara, and tree willows. Three hundred and thirty-two of them are 5 inches in diameter or larger, 30 are 8 inches or larger, and altogether they have an aggregate volume of 1356 cubic feet. This is about the equivalent of 15 stacked cords. This forest, which is yet in its teens, is producing already an average of a cord an acre a year and is really only beginning to go strong. The better trees are now shooting up a yard a year, their lower branches are dying off, and they are expanding to very usable diameters.

Meanwhile the fire hazard, which has been acute in this "fern patch" since the original forest was killed some 75 years ago, is diminishing, for the bracken fern and other herbage that supplied the tinder is fast being shaded out. (The bracken was by actual measurement 11½ feet tall in spots). But a new hazard has arisen - bears - which with tooth and claw are barking and sometimes girdling many of the biggest trees. Here is need for either a forest biologist or a good hunter, or both. - Pacific Northwest Experiment Station.

AMERICAN FOREST WEEK

Inquiries regarding American Forest Week and suggestions for its observance are beginning to come in. In some States where the occasion has been successfully observed in past years, it will probably continue, regardless of what becomes of it nationally. In other parts of the District it does not stand so high, and the interest which is expressed is not of such an enthusiastic and constructive nature. In this connection, it is interesting to note the way the public turns to the Forest Service in its observance of Fire Prevention Week in the fall. This year, the District office has been called upon not only to furnish information, slides and reels, but to furnish speakers for programs on this subject. Regardless of what is done on American Forest Week, it seems to me that this occasion, coming as it does during an extremely dangerous fire season, offers a good opportunity to call attention to the importance of this time-honored subject - the Prevention of Forest Fires. - From District 2 Phantom Conference Report, October, 1928.

MAN-CAUSED FIRES SHOW INCREASE

Lightning fires in the National Forests of Oregon and Washington show a decrease of nearly 50 per cent for the 1928 forest fire season as compared with 1927. For this same period there was an equal increase in all classes of man-caused fires, bringing the total number of fires almost to the number of last year.

There were 1,337 forest fires started on the 22 National Forests of Oregon and Washington in 1928. Of these, 578 were lightning, and 759 were man-caused. Figures for 1927 are: lightning, 1,111; man-caused, 421; total, 1,532.

The increase in forest fires caused by smokers and campers is particularly alarming.

Smokers' and campers' fires are not caused by any one class of people, for in the list of fire law enforcement cases for 1928 are found, among others, merchants, lawyers, a gypsy king, a Boy Scout master, stockmen, a logger, and hunters.

Smokers' fires in 1928 are 279, as against 143 in 1927. Campers' fires show 242 in 1928, compared with 157 in 1927. - From D. 6 News Release

HOW AUSTRIA DOES IT!

By E. N. Munns, Washington

How far Europe has gone in supplying forest tree seed from the best sources is indicated in a catalogue recently received quoting prices for 1928-29. The following excerpts and paragraphs are particularly noteworthy:

"The seeds offered are extracted under my personal supervision in my plants, the origin of them being continually controlled by the Austrian State, so that I feel I can supply you quality seeds at reasonable prices.

"To obtain seeds of most reliable quality, I have the cones collected only from selected trees, the seeds of which produce the best type of healthy and clear stock available for planting. This virile seed from the cones of dominant and healthy trees is carefully selected and scrupulously sundered according to origin to fit the region for which it is destined."

"My first consideration is quality and I spare no expense in securing the best material obtainable."

"All my seeds are accompanied by inspection certificates of the Seed Experimental Station of the Austrian State."

How this works out can be illustrated by the statements as to Scotch pine, which has come into some disrepute in America because of its poor form and probably because of the poor parent stock from which the seed was procured. Scotch pine seed is offered for sale from 6 localities: Hill districts of Austria below 1600 feet; Hill districts of Czechoslovakia below 1600 feet; Carpathian-Tyrol Mountains, 1600 to 3300 feet; Germany and Poland, below 1600 feet; and the "rigensis" variety from Finland, and from Scotland.

HISTORIC TREE

By I. J. Mason, Snoqualmie

A cedar tree bearing the following scribing was recently discovered in the Upper Cedar River watershed: "Washington Territorial Volunteers camped here June 2, 1856." This is about the time of the White River Indian War. It is recorded that in 1856, regular army troops were camped at Snoqualmie Falls in order to watch Snoqualmie Pass for Indian raiding parties from east of the mountains. Without question the Territorial Volunteers were watching Yakima Pass for the same reason at the time the above scribing was made. Ranger Saterbo and P. M. Williams recently discovered an evidence of a large clearing and campground with indications that the cutting was done about 75 years ago in the upper Green River valley near Tacoma Pass. It is evident that the passes on this Forest were used extensively in early development of the Puget Sound country.

CONVERTING OAK STANDS TO PINE AND COST OF CLEANING PLANTATIONS

The problem of converting sprout oak stands in South Jersey to mixed stands of pine and oak by planting pine among the stumps and sprouts following clear-cutting of the oak, is one of major importance in South Jersey, and it seems probable that the same kind of management is needed in the poorer stands of hardwoods on poor, dry sites in North Jersey. In the study of this problem several hundred acres of cut-over land have been planted with various species of conifers during the last five years, on the Bass River, Jackson, Lebanon, and Stokes Forests. Some failures have been recorded but the present indications are that success may be expected if species capable of fast growth in early youth are used. Shortleaf, loblolly, and pitch pine seem best adapted for South Jersey, with Jack, white, and Scotch pines as possibilities if large seedlings or transplants are used. White pine, red pine, and possibly Japanese larch promise well for North Jersey.

Whether or not broadcast burning of slash and ground brush, leaves, and debris, before planting is advisable, is still a debatable question. Burning makes it easier and cheaper to plant, checks competition of sprouts, and lessens fire danger for a few years; on the other hand burning is dangerous, impoverishes the soil more or less, and increases drought conditions if the first growing season is dry.

Within a few years after planting it is usually necessary to clean out sprouts that are seriously competing with the planted seedlings, since hardwood sprouts commonly grow from 6 to 12 feet in height during the first five years, while the planted seedlings are growing from 2 to 5 feet. If not over 500 seedlings per acre are carefully planted in the centers of the larger openings, enough will come through to make a full stand at maturity, and there will be less competition with sprouts and less cleaning necessary than if more seedlings are planted. - From "Forestry News," N. J. Dept. of Cons. & Dev.

"GATES, GOATS AND GRASS IN RELATION TO FORESTRY"

The Southern Railway, in its experimental forest at Pregnall, South Carolina, and The Champion Fiber Company, in its somewhat similar work at Foreston in Clarendon County, South Carolina, have been making practical studies of the value of carpet grass in its relation to the enemies of the pine seedling.

Carpet grass is hardy, drouth resisting, spreads rapidly and is relished by cattle. When it is once firmly established it drives out or at least holds in check the growth of the fire-inviting sage and is not in itself hostile to the growth of the pine seedlings.

It offers interesting possibilities as a means of providing immediate commercial values from waste lands that are destined for ultimate reforestation.

Reforestation of denuded areas would be relatively easy if we could only escape that long 20-year wait for the first commercial crop. Carpet grass may serve as a "stop gap" to fill this income hiatus and at the same time serve to reconcile the century-old antagonism between cattle raiser and forester.

Gates, goats, and grass symbolize to a certain extent the specific problems of reforestation in the Coastal Plain sections of North and South Carolina.

In a sense these three words also symbolize the practical problems of any reforestation program, especially:

(1) The need of reconciling the conflict between forester and stockman.

(2) The need of scientific methods for protection of growing forests from fire.

(3) The need of an "interim" income to make a reforestation area self-sustaining, pending the time of harvest of the first forest crop. - Reuben B. Robertson, President, Champion Fiber Co., in "The Southern Field," Forest Week issue.

NEW MEXICO STATE GAME DEPARTMENT PREPARES FOR BIG INVASION OF BIG GAME HUNTERS

State Game Warden Edgar L. Perry prepared for the greatest army of hunters which have ever taken the field here when the game season opened November 10. Estimating the value of visiting hunters to the State, Mr. Perry tells that last season hunters passing through Magdalena were reputed to have spent $25,000 in the city and that one party paid $500 for the use of a ranch during the season. For every buck killed during the season, Warden Perry says, the hunter indirectly pays the State from $50.00 up, exclusive of his hunting license. An endeavor is being made this year to get the hunters to go back into the mountains and get them away from the automobile roads where the hunting is better. One Oklahoman has sent word that he is bringing a party of sixteen friends to hunt deer, and another from out of the State writes that he is bringing fourteen. Deer are so thick in the southwestern Catron County and the Black Range Refuge that they are eating themselves out of house and home, and anyone going there this fall will not come back empty handed. The chief species there is mule deer although there are a few white tails.

PLANTING ON THE HURON

In less than two months, approximately 5600 acres of new plantations have been established on the Huron, and several thousand acres in addition were replanted in the plantations which suffered so severely during the drought of August 1927. Survey of the plantations has not been completed, but it will probably approach close to 9000 acres of work for this year. So far as it is known, this is the largest planting operation that has ever been conducted in such a short period by any government or state organization.

Two year old Norway pine seedlings were used exclusively, and these were dug currently as the planting progressed and hauled by truck to the forest. A total of 736 crates of trees were shipped out from the nursery. - D-2.

THEY CERTAINLY READ THEIR NEWSPAPER!

By Emma Hyatt Morton, D. 6.

Los Angeles and vicinity are coming to Oregon en masse this summer if PR is any judge.

Following a recent news item in the Los Angeles Times regarding District Six's new Oregon State Road Map, just issued for free distribution, hundreds of requests have come in from Southern California - one mail alone bringing 45!

An amusing angle (particularly interesting to a psychologist) is that fully 80 per cent of the applicants enclosed the newspaper clipping, which concludes with the statement "the forest service makes no charge for these maps." The statement that something really worth while could be obtained absolutely free evidently sounded like a fairy tale to the Southern Californian - prone as he is to getting his price from the tourist - and so he feels that it is quite wise to submit the evidence.

Even the printed fact that the map is free was not sufficient evidence to convince but half of the Californians, so these doubters all enclosed stamps - from 2¢ to 10¢ worth. One enthusiastic Oregon-bound vacationist asked for "one of the popular Oregon road maps at whatever price."

The folder is really a "map-plus"; the plus part containing fire prevention and forest information, other than recreation, that is keenly appreciated by the traveling as well as the stay-at-home public; (one letter of request came, written in a faltering hand, from two old ladies living in an old peoples' home, who "just wanted one to look at and read").

Certainly, our map folders are becoming more and more potent in popularizing the Forest Service.

In the administration of the forest reserves it must be clearly borne in mind that all land is to be devoted to its most productive use for the permanent good of the whole people*** Where conflicting interests must be reconciled, the question will always be decided from the standpoint of the greatest good of the greatest number in the long run.

James Wilson, Secretary of Agriculture
February 1, 1905

Service Bulletin

Contents Confidential

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A FOREST POLICY FOR MINNESOTA

By E. W. Tinker, D. 2

For the past two years, forestry in Minnesota has been an exceedingly live issue. All political controversies were tainted with the Conservation Program so-called. Everyone wanted it, but no one seemed to know how to get it. However, out of the strife and struggle it seems as though a real policy and plan are now about to be forthcoming.

An Interim Committee of the State Legislature has been working for the past year on the problem and has sent broadcast inquiries that have brought to it much experience in other localities and States, and has centered on the problem the opinion of many experts in the organization of State Conservation. Prominent among these is the suggestion of Mr. Ray P. Chase, State Auditor, who was requested to submit a policy and who, on September 22, did so in a very clear-cut and concise manner. The following extracts from Mr. Chase's report to the Interim Committee will give some suggestion as to the plan he outlined, and particularly its relation to the purchase work of the Forest Service, now going on within the Superior Purchase Unit.

Under the heading: "Purpose" - Mr. Chase states; "The primary purpose of the Forest Policy is to incite and guide thought and thereby to initiate and control action." Under the same caption he further states; "Forest resources have always been of major economic importance in Minnesota and always should be. Their development, protection, and perpetuation is the aim of the Forest Policy." Under the caption, "Basis", Mr. Chase lists the following points that are particularly vital: "There is a dangerous and growing timber shortage, State and National." "Every Minnesota acre should be devoted to its best economic use." "All waste and idle land should be utilized." "Some portions are and always will be timber areas. No amount of effort or advertising will make them agricultural." "A million acres of State owned lands are better suited to forestry than to farming." "Several million acres of privately owned land are better suited to forestry than to any other use." "Forestry's principal object is to grow timber crops." "Forestry is a practical science requiring profound study, deep research and looking to positive action; it is not an academic dissertation inviting controversy." "The problem is economic and not political." "Forest supervision should be non-political, with personnel determined by knowledge, experience, ability, capacity, fitness - not political exigency."

Under "Classes of Forests" the State Auditor lists as follows:- "A simple, understandable, logical classification divides forest lands and projects in Minnesota into four classes - National, local, private and State."

Under the caption "National Forests and Kindred Projects", - the Auditor goes on to state; "Minnesota should initiate and aid National Forest and allied projects within its borders. Such projects or related ones, existing or proposed, include Superior National Forest, Chippewa National Forest, Upper Mississippi River Wild Life and Fish Refuge, and Quetico-Superior international playground." The Auditor concludes, after a description of these areas, with this sentence; "Minnesota should encourage these and similar projects, urging increases in their number and in their areas and helping the Federal Government when, where, and as assistance is desired. At present, aid is desired in acquisition and administration."

Under the heading "Acquisition", the Auditor states; "The State should cooperate with the Federal Forest Service in a mutually agreeable program looking to all desirable consolidations of the holdings of each, through such sale or exchange as constitutional and legal provisions permit."

Under the caption "Administration", it is provided;- "State owned lands within or adjacent to National Forests, recreation and wild life reserves should be administered in the same manner and in accordance with the same plan as the Federally owned lands. When feasible, administration should be under cooperative arrangement to reduce expense and labor."

The policy provides under "Administration", for the following machinery: - A Department of Forests having exclusive jurisdiction over State owned forests and forest lands and all State activities pertaining thereto. It provides that its executive head should be the best obtainable forest expert. The Department of Forests is subdivided into four divisions; Forest Management, Fire Protection, Forest Research, and Public Relations.

The policy proposed by the State Auditor has received wide publicity and a great deal of favorable comment. The Minnesota Arrowhead Association, which is particularly powerful in the region involved, gives its whole-hearted endorsement agreeing with the plan proposed practically in toto.

Just how far-reaching the effect of the proposal will be is yet in doubt. However, in view of the strong public support that has been aroused for it, it would appear that Minnesota is about to give tangible recognition to the idle cut-over land problem in the State, and to set up an organization to handle its own lands very similarly to the present National Forest Service organization.

THE FIRST BOTANIC GARDEN IN AMERICA?

By E. N. Munns, Washington

At his plantation some ten miles from Charleston, S.C., Michaux, the famous French botanist, established a botanical garden. Just when this was begun does not now seem certain, but it was in the latter part of the 1780's, for when F. A. Michaux, his son, visited the place he described it as having been shamefully neglected for some time, and he gave also the age of some of the trees. Probably this "garden" was the first systematic attempt to raise in America, for trial purposes, plants from other countries. The younger Michaux speaks of the Ginkgo which had been planted "only seven years, and had already attained an elevation of thirty feet." Several of the "Mimosas in the garden had already reached a diameter of ten inches" and were in wide demand in the State because of the beauty of their flowers. Seeds of Sterculia, a semi-tropical tree, were obtained from plants started by his father. This "garden" was taken over by the Agricultural Society of Carolina about 1800 and it was proposed that the Society should try out and develop in it the plants that might be introduced successfully into America from Europe. Just what became of this "garden" seems to be lost in antiquity unless a further search of local papers discloses what became of this effort.

At about this same time a Doctor Hosack, a professor of botany at a college in New York City, was establishing a botanical garden and giving lectures on dendrology. The good Doctor was a physician it seems, devoting most of his time to the hospital and prison and running the garden and lectures on the side. This early garden probably was the forerunner of the now famous Brooklyn Botanic Garden.

So also a Mr. W. Hamilton had a "garden" on the Schuylkill, four miles from Philadelphia. He had in 1800 a collection of plants principally from New Holland and trees and shrubs from the Atlantic Coast which could withstand the winter of Pennsylvania. This collection may have been the beginning of the Botanic Garden of the University of Pennsylvania.

T. W. TOMLINSON

By John H. Hatton, D. 2

Members of the Forest Service will regret to learn of the death of T. W. Tomlinson at his home in Denver November 13. He had not been in robust health for about two years but kept at his work until the last few days of his life. Only November 1st he returned from a trip east made in the livestock interests.

For twenty-three consecutive years and until his death, Mr. Tomlinson had been Secretary-Manager of the American National Livestock Association and, in more recent years, also managing editor of "The Producer" -- the official organ of the national association. The intimate contacts between his organization and the Service through the years of adjustment and development of the National Forest grazing regulations, and the mutual interest in livestock and range questions that would naturally arise throughout the National Forest range States, have fostered most pleasant acquaintances and relations between the Service and the organization he represented. His attitude toward local and national questions has been broad, and he has taken the lead in many matters of constructive policy which he felt would be for the permanent good of the livestock people. He was one of the first to advocate control and supervision of grazing on the public domain, and never lost an opportunity to add his weight to any program looking to that end. As managing editor of "The Producer", Mr. Tomlinson developed a livestock magazine admittedly unrivaled in that particular field. His familiar presence at all important gatherings of livestock and Forest Service men, where range and livestock questions were involved, will be, indeed, greatly missed.

USES OTHER FELLOW'S VIEWPOINT TO SOLVE PROBLEMS

Secretary General Sir Eric Drummond succeeds in running his big job as head of the League of Nations by seeing things from the other fellow's standpoint.

"Just how did you build up the League secretariat?" I asked Sir Eric.

"The first rule I laid down," he answered, "was that people who joined the organization would really believe in the League idea. That is essential. Then I was fortunate in getting colleagues who had seen service in international activities, for the Great War, with its interallied boards, had given men experience in international organization.

"The main idea is this: When a delegate from any nation comes to me about some problem, I try to deal with it as if I were a citizen of his country. I try to see the thing with his eye. For the moment, I am his man. I give him the best advice from his point of view and do what I can later to have him satisfied, taking into account the international aspect of the question and its relation to similar problems of other League members." - Excerpt from an article by Jos. E. Sharkey in The Washington Star.

TEACHING RANGE MANAGEMENT ON THE GROUND

The following letter was received from the seven Rangers assigned to the Grazing Reconnaissance Party: "We believe that to produce good range management on or off the forest, the knowledge of the palatability of each forage plant and its name is an absolute requirement and one of the essentials for success in securing aid and cooperation from our users in the prevention of abuses on the forest. No one can make successful range management plans for any grazing allotment or improvement of the ranges without some knowledge of the forage and values of the plants that grow on and off the forest. Under the guidance of Mr. Koogler and his assistants these facts brought out in the grazing reconnaissance work have been clearly demonstrated to all of us. We believe all who attended and took part under their able guidance went back more stimulated and with a deeper interest in our grazing problems. We hereby wish to extend to Mr. Koogler and his assistants our sincere thanks." Mr. Koogler states in his reply: "..To you and to the Supervisors of the Crook, Coronado, and Tonto I wish to say that I believe the assignment was one of the most successful we have had. The Rangers displayed a keen and unlagging interest from the start clear through the preparation of the management plans on the last day, which each man made up separately from the type write-ups and field data that he had himself gathered during his assignment..." District 3.

MOUNTAIN MOOD

By Jno. D. Guthrie, D. 6

There was a beautiful "pome" on the cover of the Six Twenty-Six for August, called "Mountain Mood". The first verse read:

"The lupines spread their bluebird wings to meet
The baneberries' toy balloons, all neatly clustered.
The silver gnats of baby's-breath are flustered,
While flecked with cinnamon is meadow-sweet."

The Editor, sensing a possible come-back from some super-scientist as to its accuracy, etc., submitted said pome to Doug Ingram with this query: "Beautiful, but is it botanically and ecologically accurate?"

And Doug came back with this: "Since when must one use the sharp edge of Research to trip poetical expression? How can I tell unless the botanical names are supplied? If you must use it, why not have it accurately stated, thus:

"Lupinus laxiflorus spreads her bicolored petals to meet
Actaea arguta's ripened fruit all neatly clustered.
The pubescent staminate bodies of Cypsophilla are flustered (So am I!)
While flecked with ripened pollen is Spirea sp.?"

FOREST FIRE TORCHES

The Central Railway Signal Company has just shipped us a complimentary box of a new type of fusee made particularly for use in backfiring, as its printed label indicates. It was made according to suggestions offered by several forest protectionists who had tried the standard railway fusee in fire fighting or slash disposal at the instigation of this office. The new "forest fire torch" has a tin ferrule instead of the spike print, is slightly larger in diameter, therefore giving 36 per cent more volume of flame at 2000° F. and burns for over ten minutes. Manufacturing of these has just begun and they will be disposed of in boxes of 24 each, or cases of 144 torches, at $3.00 per box or $16.20 per case. - From Branch of Research Monthly Report, September, 1928.

Those who have read the poem in the Service Bulletin of November 12, 1928, on page 6, may perhaps be interested to know the name of the author.

In an old volume of Forest Fish and Game (published in Athens, Ga.) Volume 3, 1906, April, 1911, page 105, the same poem is published under the name of C. B. Clark, Jr., who at that time had been a ranger in Arizona. - L.J.P., Southern For. Exp. Sta.

THEY STAY WITH IT

By A. O. Waha, D. 6

The following shows the number of years that Supervisors in District 6 have filled the position of Supervisor; length of service previous to appointment as supervisors not being included:

Years	No. Supervisors
21	2
20	2
19	1
18	1
17	2
11	2
10	2
8	4
4	2
3	1
Under 2	3
	22

Possibly the main thing this indicates is that the job of Supervisor is a mighty good one.

FIRE PROTECTION RULES FOR RAILROAD RIGHT OF WAY

An endeavor to obtain more efficient action by section crews, train crews, and other employees in preventing, suppressing, and reporting fires along the right of way is being made by the Atlantic Coast Line Railroad. In a recent circular detailed instructions were issued to all employees with this object in view. Front end arrangement and ash pans of locomotives are to be inspected at the end of each trip. Locomotives are not to be returned to service with any holes in plates or netting larger than the original open areas of the netting. Sprinklers are to be used liberally before ash pans are dumped, in order to be sure live coals are not left on the track. Proper precautions are to be taken to see that ash pans are closed and secured so that fire will not drop through. Burning waste from hot boxes must be extinguished by trainmen. The right of way is to be burned promptly as soon as weather conditions permit after the first frost, low places that fail to burn the first time being carefully watched and burned again as soon as they are dry enough. Old logs and stumps that catch fire in the burning of right of way must be extinguished at the end of the work day. The area burned at one time must be small enough so that the fire can be kept under control in the event of a sudden change in wind direction. When old cross ties are being burned during dry weather some one must stay with the fire until it is out or must put it out at the close of the work day before leaving. Section masters are ordered to proceed to fires started by accident as quickly as possible with sufficient men to control them. Placards are to be kept posted in smoking compartments of coaches calling attention to the danger of throwing lighted matches, cigars, and cigarettes from windows. Reports must be sent in by wire by section masters in regard to all fires discovered on or near the right of way, so that a quick investigation can be made and responsibility for the fire determined.

EDUCATIONAL METHODS

(From Arthur Brisbanes Column "Today")

"A former superintendent of Chicago schools, leaves for Athens to spend a year studying Socrates' methods of teaching. His plan, may heaven thwart it, is to revive the Socrates method in modern schools.

Socrates, if Plato described his method accurately, touched a new peak in boredom. Instead of saying what he had to say, he went around Robin Hood's barn with questions and answers tiresome beyond measure.

Whether or not Socrates was guilty, as alleged, of filling young Greeks with disrespect for the gods, and, in spite of the marvelously heroic hemlock drinking episode, you can hardly blame the Athenians for getting rid of him.

What modern education needs is moving pictures, with condensed verbal elucidation, not Socratic dialogues.

YE EDITOR DISCOVERS

The Forester and several members of his staff went before the Agricultural Sub-Committee of the House Committee on Appropriations on November 20 armed with facts and figures, which we hope will prove convincing. Only time will tell; the Committee won't.

The Editor discovered a table on which were neat piles of said data, together with maps and pictures. Visual aids were used in presenting our case.

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The cold grey dawn of the morning after a three months' field trip, was the way the Chief of Lands described his feelings. You have to prove, it seems, that your trip has helped the poor over-worked field officers, and has given impetus to Forest Service objectives, and you must wrap the bacon up in nice packages for display. There is, too, the effect of the Chief's return, on his own office force a fluttering effect, and of course the intangible effect on the field is a subject for reverie.

This year Mr. Kneipp noted a lack of frantic appeals for help from visiting Washington and District office men in fighting fires. This may have been due to better organization, or on the other hand to a certain diffidence about herding brass collared gentlemen about the forest, when more important things were pressing.

He seems to sense an apparent belief among Forest Service men that those energetic persons engaged in Acquisition work have developed a strain of cold-bloodedness in making deals that is positively inhuman.

The Editor discovered said Chief wearing a brand-new and nifty suit of clothes. This is deemed worthy of comment because it is the only one we've seen so far this fall in the Washington Office.

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The Chief of Grazing, C. E. R., is busy as Paul Bunyan's skillet greaser rounding up the final ????? review of Range Appraisals. This includes checking the fees on all allotments and Forests and making a summary of all Range Appraisal work of the Districts. The Editor found him buried under 36 atlas sized sheets.

It is anticipated that Mr. Casement will again be called by the Secretary of Agriculture to determine whether the adjustments made by the Forest Service conform to Mr. Casement's recommendations and the Secretary's decision.

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Early in November a big sugar pine was cut on the Lassen National Forest. Only fragmentary data about it are available, but the first log is reported to have measured 101 inches in butt diameter and 84 inches top diameter. The tree scaled 27,570 board feet. It took three of the Red River Lumber Company's big railroad cars to carry to the mill the logs from this one tree.

The tree was cut under an agreement for the exchange of land for timber. It paid for over 80 acres of soil. (You will kindly note the absence of superlatives.)

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Lord Clinton, Chairman of the Forestry Commission of the British Empire, called on the Forester recently to discuss forestry in the United States and to learn our methods of gathering statistical information on forest resources, with a view to their possible coordination with those followed by the British Forestry Bureau. Lord Clinton is returning from an Empire Forestry Conference recently held in Australia.

Great Britain is working on a ten-year planting program and is planting at present about 30,000 acres per year.

AN ARBORETUM FOR PORTLAND

By T. T. Munger, Pacific Northwest For. Exp. Sta.

The City Council of Portland, during American Forest Week set aside an area of undeveloped park property on the West Hills for a Municipal Arboretum. Here it is the hope to grow under semi-natural forest conditions as many different species of trees as possible. Because Portland's climate is so favorable to most of the trees of the temperate zones, it would easily be possible to build up a world-famous collection, as attractive to the student and the tourist as are Kew Gardens, London, or the Arnold Arboretum, Boston. An interest in trees begets an interest in forests, so this arboretum should help to make the public forest-minded .

In this connection, the Arnold Arboretum recently set out to add a million dollars to its endowment. So interested are many people in this museum that at last reports $850,000 had been contributed.

COURT GIVES SEVERE PENALTY TO BURNERS

Severe penalties meted out to forest incendiarists in Burke County in August typify the spirit that is developing in North Carolina in connection with the burning of woodlands.

Two offenders, charged with deliberately setting fire in the forests of the county after having spent several months in jail awaiting trial, were given a sentence of four months and ordered to leave the State at the expiration of that time under penalty of having a suspended sentence of six months invoked should they fail to meet this condition.

It was charged that the two men, who had previously had distilleries destroyed by officials, attempted to wreak vengeance on the community by setting out approximately 40 fires. They are alleged to have been witnessed in the act by citizens who reported them to E. A. Spainhour, County Forest Warden, who swore out warrants for their arrest. - From "Conservation and Industry" of the North Carolina Department of Conservation and Development, September, 1928.

FIRE

On September 14 and 15 Siggins assisted Prof. H. E. Malmsten of the University of California in some pyrometric studies in the chamiso and grassy woodland types. Surface temperatures as high as 805°F. were recorded under a burning Ceanothus cuneatus bush. Under a fairly heavy accumulation of litter the temperature reached 395° F. When the points were under a light litter or grass cover the temperatures recorded were not much above normal. This information, coupled with previous experiments on temperature tolerance of seeds, may explain why we get a heavy reproduction in our brush and chaparral types after a fire has crowned fiercely over the area, apparently destroying everything in its path. - From Branch of Research Monthly Report, September, 1928.

THE STEWARD'S ALIBI?

By A. H. Sylvester, Wenatchee

Complaints by farmers of the depredations of sheep are no new thing as witness this quotation from the letter of the steward of an Egyptian estate to his employer in 1400 B. C.

> "The worm (cut-worm) ate half the crop and the hippopotami ate the other half. The fields were full of rats, a swarm of locusts settled down and fed, the sheep also ate, and the birds stole."

'Tis hard to understand what was left for the rats, the locusts, the sheep and the birds after the worms ate half and the hippos the other half. One would judge there was some overgrazing. The complaint will perhaps have a familiar ring to the supervisors of grazing forests.

CAPT. C. H. SELLERS

Having sent in a specimen of creosote-bush recently for identification, Capt. C. H. Sellers, of Girvin, Texas, spoke of himself as a former member of the Service. As his name did not appear in the Service files, the following information concerning himself, which will doubtless interest some of the older members of the Service, has now been furnished by Capt. Sellers:

> " * * I was with the U. S. Forestry Service from 1902 until 1908 when I resigned to accept the position of Asst. State Forester of California under G. B. Lull. After five years with the State of California I resigned to enter private life. While in the U. S. Forest Service I worked with a large party on the southern pines, the Colorado pines, the California redwood, the cut-over lands of California, and various other details over the U. S. Also studied the eucalypts with Anderson. ** After I left the California State work I spent two years on my own accord studying Eucalyptus and compiled a bulletin on Eucalyptus which I had printed and disposed of several thousand copies. You should have one in the office. Mr. Pinchot, who was Forester at that time, requested a copy and after he looked it over he wrote me a very nice letter about it. The name of the bulletin is "Eucalyptus: Its History, Growth, and Utilization. * * If at any time I can collect or secure any data for you in this part of Texas, write me." - W. A. D.

> In the administration of the forest reserves it must be clearly borne in mind that all land is to be devoted to its most productive use for the permanent good of the whole people. * * * Where conflicting interests must be reconciled, the question will always be decided from the standpoint of the greatest good of the greatest number in the long run.
>
> James Wilson, Secretary of Agriculture
>
> February 1, 1905

Service Bulletin

Contents Confidential

Vol. XII No. 50 Washington, D. C. December 10, 1928

NATIONAL FOREST AREAS

By E. A. Sherman

The table of National Forest areas as of June 30, 1928, compiled by the Branch of Engineering, indicates that the past fiscal year was a fairly prosperous one from the standpoint of the area growth of our physical forest properties. At the close of the year the net area of Government land in the 15 National Forests was 159,480,856 acres. This is an increase in net area of 680,432 acres over the fiscal year ending June 30, 1927.

It is interesting to note that this is the ninth consecutive year in each of which the National Forests have shown a distinct gain in net area. It is also interesting to note that these nine years of steady growth were preceded by nine years of heavy losses in area. The period of losses began with the fiscal year 1910 and ended with the fiscal year 1919. It is true that during this period the fiscal year 1918 appeared to be an exception to the rule of loss, since the Forester's report for that year indicated a net gain of 207,983 acres in area. This, however, was due to the fact that the figures that year included much of the lands which had been accumulated by purchases under the Weeks Law. Had these areas been taken up in the area table as acquired, even the year 1918 would have shown a shrinkage in area rather than a gain.

While it is true that we have had nine growing years to offset nine years of loss, the total area of National Forests is far from being as great as at the peak, which was reached at the opening of 1910. At that time the net area of Government land in National Forests was in round numbers 172,000,000 acres. When the area reached its ebb tide on June 30, 1919, these properties had shrunk to 153,933,700, or an aggregate net loss of 18,066,300 acres in nine years. The present net area, as given in the opening paragraph, represents a gain of 5,547,156 acres.

While from an area standpoint the Service has only been able to regain about one-third of the net area lost during the period of attrition, upon the other hand it is certain that the areas which have been added are much more valuable for timber growing than the areas eliminated. There is no doubt but that at the close of June 30, 1928, the National Forest properties represented greater timber producing power than the larger area under reservation July 1, 1910. It has been a long hard pull, but the inroads made in our Federal forest properties by hostile forces over a period of years have been more than offset by the gains which have resulted from the betterments which have been brought about by Congressional additions, land exchanges, and purchases.

CRAWFORD TO LEAVE DEPARTMENT

Secretary Jardine announces with regret that Nelson Antrim Crawford, for the past three and a half years Director of Information in the Department of Agriculture, has resigned, effective November 30, to become editor-in-chief of the Household Magazine, published by Senator Arthur Capper. Mr. Crawford will take up his new duties in December.

Mr. Crawford came to the Department from the Kansas State Agricultural College, where he was head of the department of journalism and director of the press service. He was formerly in daily newspaper work and has been on the staffs of various magazines. He is well known as a writer, being a contributor to many periodicals and author of several books. His latest work, "A Man of Learning, " a satirical novel, attracted wide attention both in the United States and abroad. He is general editor of the Borzoi handbooks of Journalism. His Book, "The Ethics of Journalism," is accepted as the standard in the journalistic field. He has done special editorial work and writing for the Encyclopaedia Britannica and is a contributor to the Encyclopedia of the Social Sciences, the American Yearbook, and other scholarly publications.

Secretary Jardine also announces that Mr. Crawford will be succeeded as Director of Information by M. S. Eisenhower, for the past three years Administrative Assistant and Secretary to the Secretary of Agriculture. Before coming to the Department Mr. Eisenhower was for two years American Vice-Consul at Edinburgh, Scotland; one of his chief duties in that post was writing trade reports and economic papers. He was a professor of journalism at the Kansas State Agricultural College under Mr. Crawford and for several years edited a daily and weekly newspaper and a trade magazine in Kansas. His articles in magazines and newspapers have dealt largely with agricultural subjects. In addition to his studies leading to a degree in agricultural journalism at the Kansas State Agricultural College, Mr. Eisenhower did post-graduate work in the University of Edinburgh at which time he was assigned to The Scotsman, one of the leading British dailies, to carry on his work.

SIGNS OF THE TIMES

By L. F. Kneipp, Washington

It was only a few years ago that the National Forests broke out in a rash of white, red, green, yellow, and other colored signs which might reasonably have created the implication in the public mind that the Forest Service was endeavoring to create a market for wood pulp by using as much as possible in the form of posters. Members of District offices, their esthetic sensibilities frequently outraged to the breaking point, sometimes found it necessary to pause a sufficient length of time to remove from a popular public campground some part of the dozen or twenty posters which in groups as much as three to a single tree offended the eye and sometimes the spirit of the National Forest visitor. About the same time Claude Ballard took occasion to practically paper one of the halls in the Atlantic Building with examples of signs, simply to show the variety and volume of such material employed by the Forest Service.

But a new and very agreeable trend is now manifesting itself in the National Forests. Fewer and better signs seems to be the accepted order of the day. By better signs is meant not so much a change in the form or wording of the signs as in the method of their use. As one passes through a number of National Forests now he notes at intervals, neither too frequent nor infrequent, neat boards swinging from brackets at right angles to the road and bordered with narrow strips of molding, usually painted green – a neat and courteous sign in no way incompatible with its forest background nor clamorous in its urging, which briefly but completely advises the forest visitor of something of which he should have knowledge. Or perhaps it may be one of our larger signs announcing the closure to smoking of a certain National Forest area, supported at an appropriate height by two 4 x 4" standards and so mounted and inclosed by suitable molding that even its glaring black and yellow color combination loses its objectionable character and actually blends into the forest landscape in a reasonably harmonious way.

The results leave no doubt as to the superiority of this new method of posting the National Forests. It does, it is true, take more time to prepare the boards and brackets than merely to tack a poster upon a tree, but this is offset by the fact that the same cautionary and educational effect probably can be secured by a much smaller number of signs or posters than otherwise would be necessary and a much more pleasing impression is left in the public mind. The practice is one that well might be adopted within all National Forests.

FIRST MATE AT THE MONUMENT NURSERY

By Fred R. Johnson, D. 2.

When the Supervisor of the Pipe Forest, or members of the District office 'phone to the Monument Nursery, they put in a "station to station " call, for they know that if Walter Schrader, the planting assistant in charge, is out of reach, his able first mate - Mrs. Schrader - can give the desired information. Schrader has been in charge of the Monument Nursery since it was started twenty years ago and has built it up to its present high state of efficiency. Mrs. Schrader joined the nursery force shortly after it was started. In addition to raising three children - two now in high school - she has learned how to raise coniferous seedlings so that when occasion demands she can drop her household duties and assist. It matters not whether it be piloting a bunch of tourists or school children around the nursery and telling them about the various species of trees, or whether it be assisting in the application of aluminum sulphate to control the ravages of root rot that attack Douglas fir seedlings.

Last spring Mr. Schrader went to a hospital in Colorado Springs for a minor operation. While there, he was exposed to a contagious disease and was quarantined for several weeks. The spring nursery season opened during this period and it was necessary to start work. Mrs. Schrader took over the reins and directed the crew of workmen in removing the winter mulch from the seed and transplant beds, in digging and packing trees for distribution to planting projects, in watching the fall sown seed beds for germination and for the appearance of the damping off fungi and in handling all of the other numerous details of running a nursery. Occasionally she drove to Colorado Springs and discussed the work with her confined mate through the window of the isolation ward. However, most of the work was carried on without any help and when Schrader was released, he found that everything had progressed in regular order and without a hitch.

All honor to the Service women who are so much interested in the work of the Service that they have learned the job and can carry on when necessary.

THE MOUNTAIN

"We change our point of view, but the mountains themselves change not, Whatever face they turn to us, whatever their appearance, it is always one of beauty. They are mere breaks in the crust - crushings of the earth shell - and by the same reckoning color is a mere break in the beam of light, but what a wonder work each of them spreads before us! We pick and choose here and there - some for the strength of form and others for the glory of color - but nature herself makes no choice and has no preference. For she formed and garbed and hued each manifestation, from the first gentle heave of a foot-hill to the last sunflash on a pinnacled peak, with a singular care and endowed it with a peculiar and a superlative beauty. Each after its kind was made perfect and complete within itself. ... All the world loves the mountains - loves them as color patterns on the blue, as marvels of light and shade, as symbols of peace and purity - loves them, in other words, as one might a picture. That there is a supreme grandeur about the peaks and a great beauty in the lesser hills every one will acknowledge."- By John C. Van Dyke. Clipped from the Sierra Club Bulletin, Aug. 1928.

HOW OLD ARE WE?

By A. O. Waha, D. 6.

There are 378 employees in District 6 under regular appointment. Of this number 58, or 15 per cent, have reached or passed the age of 49. Here is the way these middle-aged boys and girls stand in age classes:

Age	No.
62	1
61	1
60	3
59	2
58	5
57	4
56	4
	20

Age	No.
55	3
54	7
53	2
52	9
51	2
50	9
49	6
	38
	20
Total	58

The positions held by these 58 employees are as follows:

District Office	
In charge offices	5
Specialists	3
Clerks	7
Others	2
	17

Forests	
Supervisors	7
Staff men	8
District Rangers	10
Timber sale men	12
Clerks	4
	41

This information is not given out for the purpose of starting guessing contests, but only as a matter of general interest. So far, no employee in District 6 has been retired through having reached the age limit, and only two have been retired on account of physical disability.

YE EDITOR DISCOVERS

H. I. Loving, our genial Fiscal Agent, thought the field would be interested in some pending legislation. Three bills in which the field personnel is concerned have been pending from one to three years. The first of these is the Three Point Act which provides (1) reimbursement in case of loss or damage to privately-owned property occurring incidental to official work; (2) winter pasturing of Rangers' official stock at distant points and care and housing of Rangers' horses and motor equipment; (3) hire, rental, and purchases from Forest officers. This bill was introduced in the 69th Congress and was reported out by the House Committee but failed of passage because of a congested calendar. It was again introduced in the first session of the 70th Congress and it is hoped that it will be passed at the second session about to convene. On November 28 the Forest Service was afforded a hearing on this bill by the Bureau of the Budget. The decision of the Director was entirely favorable to the bill except with respect to the provision relating to purchases from Forest officers. This does not mean that such emergency purchases must be discontinued, but that purchases from Forest officers will not be permitted when practicable to secure the commodity from other sources.

The second bill in which there is a great deal of interest was introduced on May 3, 1928, and provides, first, for arrests by Forest officers of persons committing offences against the Federal Statutes on National Monuments under the administration of the Forest Service; second, for the seizure of property illegally possessed or transported; and, third, for the protection of Forest officers against assault in the execution of their official duties. This bill was taken up too late to secure its passage. However, confidence is felt that the measure will be given careful consideration at the short session.

The third bill has for its purpose the broadening of the powers conferred by the Act of December 28, 1922, which permits reimbursement for damage to equipment, only where negligence of Government employees was involved. This bill contemplates, first, authority to pay claims for damage to private property not the result of negligence on the part of Forest officers; second, to make expenditures from Forest Service administrative funds for searching for persons lost in the Forest, or for bodies of persons who die, and for transporting injured persons or bodies to nearest community center or railroad point; third, to pay in excess of $500 for development of water at Ranger Stations in exceptional cases where limit of Act of March 3, 1925, is found administratively to be inadequate.

Another bill, a Department measure, whose introduction was advocated by the Forester last session, was for the extension of the annual and sick leave privilege prevailing in Washington to the field, and to make annual leave in Alaska cumulative for four years. No action is contemplated looking to reviving this measure in view of the general leave bill applicable to all field branches of Government service, prepared under direction of the Budget Bureau. This latter bill is believed to stand a fairly good chance of passage. The Forest Service is lending its full support to this measure, the terms of which are equally as liberal, if not more so, than those of the Department Bill which has been withdrawn.

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We are in receipt of a letter from the Mexican Embassy requesting photographs of lookout towers to be used by the Department of Agriculture of Mexico in a fire prevention propaganda bulletin.

NINETY-FIVE PER CENT CALF CROP

By John H. Hatton, D. 2.

We hear of seventy, eighty, a hundred and up to one hundred and forty per cent in lamb crops, and we swallow the reports with no abrasion to our Adam's apples. But when they bring me a report of ninety-five per cent in range bred calves from a rugged Forest allotment carrying 500 mixed age cows, they usually have to give me the information in something of a liquid form and clamp my nose. At least I require a "chaser".

Well, they had the information in proper form on the Crooked Creek C&H allotment of the Rio Grande when I made a trip recently to those parts. "How come", I said. Here is the medicine I had to take and it proved good.

State Senator A. E. Headlee and his capable son "Bill" Headlee are the permitees. They know the cow game from A to Z. They have a well selected, well bred range bunch of 500 cows of good ages. Down near Antonito is their ranch -- one of the best for hay and feed production in the San Luis valley. Their cattle are always well wintered. They come to the Forest range in excellent condition. They buy excellent registered bulls -- not too young -- and they don't keep them too long. I think the retirement age for them is five years. They keep plenty of them. They see that they are well scattered out over the range at all times. They are kept with the cows yearlong.

"But how about controlled breeding?" I said. "I thought that was a progressive idea."

"Most of the calves are born in April and May anyway", they said. My observation of the calves confirmed the statement.

Every animal has a personality. The history and performance of each individual is known almost like in a registered herd. If a cow doesn't present her owners with a calf they learn the reason why. If there is any suspicion of disease, such as abortion, she is immediately isolated and marked for the block. If she is a heavy springer when taken to the mountains and she isn't accompanied by a calf when she comes down in the fall, she must give a satisfactory explanation or be retired for disability regardless of age. These are the reasons that practically every cow in that herd is a known breeder and this year is returning to her owners a fine $50 calf.

"And the range", I said. "What is responsible for the great improvement in appearances since I was here in 1924?"

"We have worked out in cooperation with the permittees practically an ideal plan of management and Bill is carrying it out to the letter," said the Supervisor. "He has apportioned the lower parts of the range for spring and fall, and the upper for summer. He has worked out a perfect system of distribution and control through salting, riding and fencing. And he has figured it out that 500 cows with 475 calves are worth constant care and attention."

"Tell me one thing more," I said. "Who is that comely young woman in knickers and the comfortable blue sweater, the dainty, beaded cowboots and spurs and gloves, and that most becoming old and crushed ten gallon hat studded with royal coachman flies, who just went into the Ranger Station to 'phone?"

"Why, that's Bill Headlee's wife. She spends the entire summer up here with him in that cabin you saw up road canon. She rides, wrangles horses, packs salt, and takes a full hand's place on the range and can assume full charge if Bill is called down to the valley for any reason."

"I see. That completes your information and tells the story," I replied. - Clipped from D. 2 Bulletin.

MORE EARLY FIRE HISTORY

By E. N. Munns, Washington

F. A. Michaux, son of the famous botanist and also a botanist of no small repute, traveled extensively in America in 1802, going from Philadelphia to Louisville, Kentucky, and thence to Charleston, South Carolina. In his travels he came to the "Barrens" or limestone country of Kentucky where he met the practice of woods burning for pasturage purposes.

In his account of his journey he writes:

"Each year, in the course of the months of March or April, the inhabitants set fire to the herbage, which, at that period, is dry, and the extreme length of which would deprive the cattle for a fortnight or three weeks longer of the new grass, which then begins to shoot. This custom is, however, generally blamed, and with reason, for being set fire too early, the grass dies, and, in consequence of its drooping, does not protect the rising crop from the spring frosts, and its vegetation is retarded. This custom was formerly practiced by the natives who came to hunt in these countries, and is still continued by them in other parts of North America, where there are savannahs of vast extent. Their object in setting fire to them is to attract the stags, bison, etc., into the burnt parts, where they can perceive them at a distance. No idea can be formed of these dreadful conflagrations without having seen them: the flame, which generally occupies a line of several miles in extent, is sometimes driven forward by the wind with such rapidity that men on horseback have become its prey. The American hunters, and the savages, preserve themselves from the danger by a method as simple as ingenious: they immediately set fire to that part of the meadow in which they happen to be, and afterwards retreat into this burnt spot, where the flame which threatened them stops for want of fuel: this is what the Canadian hunters call 'making their own fire'."

EDUCATIONAL PROGRAM

Our educational drive is on! There has been added to our ever growing equipment, a three-fourths ton Special Delivery International truck with panel body. The hood and chassis are painted black and the body a deep maroon, appropriately lettered in gold bronze.

It will carry quite a complete outfit for motion picture entertainment to the people of the State. There is installed a 1,500 watt Kohler generator, an Acme S. V. E. portable motion picture projector with stereoptican attachment, a long range stereoptican projector, a nine by twelve foot rubber screen, a daylight screen, film cases, film rewinders, extension cords, and a cot, mattress and blanket.

Mr. W. L. Nothstein, who has recently completed his work on a timber survey for the Department, will have charge of the educational work. During October and part of November he will carry on the fair exhibits throughout the eastern part of the State, and immediately after these are completed, he will commence the motion picture work. It is planned to begin the motion picture program in the western district in November and December, moving into the eastern district just prior to the spring fire season.

The program, which will carry about ten reels of picture dealing with forest fire prevention and game protection, will cover as many schools as possible throughout the State, emphasis being placed on the small rural schools in the outlying districts. In addition to the school programs, showings will be made to Civil Clubs, Four-H-Clubs, Boy and Girl Scouts, Y. M. C. A., and Y. W. C. A., camps; in fact, to all the people where the lesson of forest and game protection can be put across.

At the time this truck was purchased and equipped, the American Forestry Association was completing five additional ones for their Southern Educational Project in Georgia, Florida, and Mississippi. - From the "Forest Warden" North Carolina Conservation Department, September, 1928.

Blair Mountain

James A. Blair gave up his life in the line of duty on June 18, 1928. During his long and efficient period of service as Supervisor of the White River, he brought his pack into the Deep Lake Station perhaps more than to any other point on the Forest. Many an inspector and other Forest officers have joined Mr. Blair here for extended trips over the important domain under his supervision. A few miles distant is a conspicuous promontory formerly called Bald Ridge. The National Geographic Board, on recommendation of the local officers, will change the name to Blair Mountain. - J. H. H., D. 2 Bulletin.

A NEW SLANT ON BLISTER RUST CONTROL

A recent Associated Press article from Poughkeepsie, N. Y., states that a lawyer in Dutchess County, who owns a fine white pine plantation, recently sold a tenant house from his farm and stipulated in the deed that no currants or gooseberries of any kind should be grown or cultivated by the new occupant. G. L. Schnur, Allegheny For. Exp. Sta.

ANOTHER ILLUSION SHATTERED!

By L. D. Blodgett, Olympic

For Sale - or Trade - heavy silver-mounted stock saddle. I had this saddle made to order by Heiser of Denver, Colorado, of extra heavy, selected bull hide. It is built on a 15" Colorado-Nelson tree, with 16" swell fork, waffle stamped, and trimmed with sterling silver conchos. The horn is also of sterling silver on a steel fork. Skirts are 16½ × 31" sheep lined. There are two sets of stirrups, one pair flat bottomed for use with shoes, and one pair of ox-bows for use with boots. This saddle has never galled a horse and is very comfortable. It cost me before the war $165, and could not be duplicated now for anywhere near this amount. It has been well taken care of and is as good as new. There is also an ear - bridle with $12 silver mounted curb bit goes with the saddle, and a leather carbine scabbard. Will sell for $40 cash, or will consider trade for typewriter, skiff, out-board motor, rifle, radio, lot, books (scientific or technical), or what have you?

If there are any "Horse wrangling" rangers left who want a good outfit cheap, here is your chance.

A New Idea: The exhibit at the Roswell Cotton Carnival was pronounced a huge success, reports the Lincoln Bulletin. The Forest Service and the Biological Surveys exhibits were held jointly. A unique feature which was originated by Ranger Thomas, who represented this office, and which "went over big" was the giving away each day by drawing lots of an evergreen tree transplanted in a candy bucket. - D. 3 Bulletin.

> In the administration of the forest reserves it must be clearly borne in mind that all land is to be devoted to its most productive use for the permanent good of the whole people. • • • Where conflicting interests must be reconciled, the question will always be decided from the standpoint of the greatest good of the greatest number in the long run.
>
> James Wilson, Secretary of Agriculture
>
> February 1, 1905

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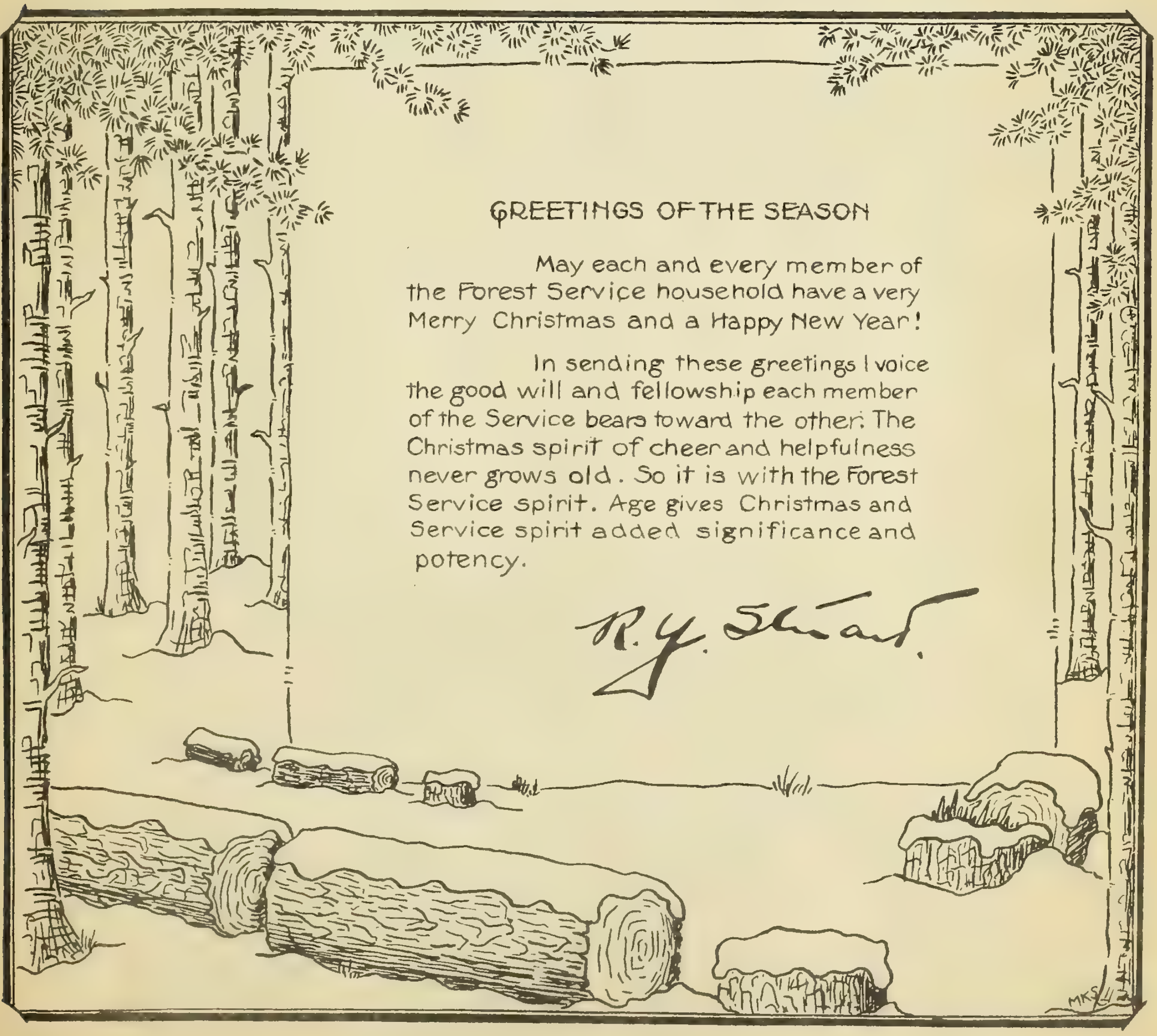

GREETINGS OF THE SEASON

May each and every member of the Forest Service household have a very Merry Christmas and a Happy New Year!

In sending these greetings I voice the good will and fellowship each member of the Service bears toward the other. The Christmas spirit of cheer and helpfulness never grows old. So it is with the Forest Service spirit. Age gives Christmas and Service spirit added significance and potency.

R. Y. Stuart.

THE WORLD'S FARTHEST NORTH COLLEGE

By E. A. Sherman

It is not always such a "long, long way to Tipperary". This was forcibly brought to my mind a few days ago when I asked District Forester Charles H. Flory, "How is the agricultural college at Fairbanks getting along?" To my inquiry he replied: "Fine! They have over a hundred enrolled this year." I expressed surprise at the size of the enrollment, and continuing my interrogatory, asked, "What kind of a school is it?" "A good school," he replied. "I am sending my boy up there. That shows what I think of it."

This conversation, which informed me that Albert B. Flory, son of Alaska's District Forester, who is also the Commissioner of the Department of Agriculture in Alaska, is now regularly matriculated as a freshman in the class of 1931 of Alaska's Agricultural College and School of Mines, caused my recollections to run back to five years earlier, when I made my last trip to Alaska. The boy was just then entering high school; his father had just been appointed District Forester of the newly-created Alaska District, but the office of Commissioner was still undreamed of.

Mr. Flory, District Engineer C. W. Cheatham, of the Bureau of Public Roads, and I, drove over the Richardson Trail from Valdez to Fairbanks in the closing days of July, 1922. The Alaska legislature the preceding winter had appropriated funds for the establishment of an agricultural college at Fairbanks, to be located on the grounds of the agricultural experiment station which had been established by the Department of Agriculture, three miles west of Fairbanks, about 1912. When our party reached Fairbanks and visited the experiment station we saw on the adjoining rise of ground two new buildings which were just being completed, and which were to form the nucleus of the new agricultural college.

Returning to Fairbanks the evening of July 29, I looked up the new college president to see what manner of man this was who was possessed of sufficient courage and vision to attempt to establish an agricultural college almost within the shadow of the Arctic Circle. I found the new president, Judge Charles E. Bunnell, had been the leader of the Fairbanks bar, had been nominated as Federal Judge, but not confirmed owing to changes in party leadership. The board of directors of the newly established college seized upon the psychological moment to secure his services in establishing the first college in the Territory.

I found Judge Bunnell a man who was apparently just reaching his prime; his mind was somewhat disturbed with doubts--his friends had been telling him that he was doing a foolish thing to give up a lucrative law practice and a promising career in his profession in order to cast his fortunes with an institution that they believed was foredoomed to failure. No other school lies so close to the Arctic Circle. The field from which the new institution would draw students seemed exceedingly meager. Would it be possible to secure funds, faculty, and attendance justifying the plans of the enthusiastic advocates of the college? Judge Bunnell was in doubt. He apparently was willing to make the sacrifice if there was a fair chance of performing a real public service. If, upon the other hand, the task was foredoomed to failure, why waste his time and the hard-earned public funds which would go into the project?

I found him in a bare office room, furnished with a simple table and boxes filled with books, stationery, forms, and other working materials which were being accumulated for the new college. When he learned that I was a graduate of the Agricultural College of Ames, Iowa, he immediately manifested a great thirst for information. Fortunately I was able to tell him some things of the early history of that institution. He seemed somewhat reassured when I told him that I understood that the situation which confronted the school at Ames in 1869 looked just as dark as the situation then confronting him. The prospects of appropriations were just as meager, the population which would be served by the institution just as small, and the ability of fathers to finance the college attendance of their sons was much less in Iowa in 1869 than in Alaska in 1922.

Opponents of the school argued to President Bunnell that the attendance at the new institution would be so small that with the same amount of money an equivalent number of students could be sent to the leading educational institutions in the States, with all expenses prepaid, resulting in a saving both to the Territory and to the parents.

One thing, however, Judge Bunnell apparently saw that was not realized by these "doubting Thomases," and that was that the Territory of Alaska needed educational service within its own boundaries. This I also saw. In discussing the Alaska problem and the shrinkage of the white population, I had been preaching that Alaska must raise its own Alaskans, that in the long run the population of Alaska must grow as the population of Scandinavia had grown, that is, through the slow natural increase of a hardy resident race. For the Territory to send its young men and young women out to the States to secure their higher education would be to reverse the stream of population. An Alaskan boy sent from Juneau to Harvard would return, if at all, as a Bostonian rather than a "sourdough". Judge Bunnell realized that the young Alaskan who secured his higher education at Fairbanks would be attached to the region by one of the strongest of human ties, and that the progress of the Territory in future generations would be markedly influenced for better or for worse by the success or failure of its leading educational institution.

My diary of that date contains a brief record of this interview, the day's entry closing with the statement: "It was about 2:00 A.M., and although a cloudy rainy night, it was broad daylight as I walked from Judge Bunnell's office back to my room at the Pioneer Hotel."

With such a background it is no wonder that I was pleased when Commissioner Flory told me that his son, now a young man of twenty, was enrolled in the school at Fairbanks and that the college was firmly established, as a successful going concern. Apparently Alaska _will_ raise her own Alaskans and will keep within her own borders the best mental talent which she produces instead of exporting them to the States. Alaska is willing to share with us such products as salmon, wood pulp, and gold, but her most precious product, the most intelligent young men and women of the Territory, she prefers to keep at home.

THE 365 DAY SANTA CLAUS

By L. F. Kneipp

Probably there is no other mythical or symbolical figure which, throughout the Christian world, is so dearly beloved or so thoroughly typical of the best and highest of human instincts as Santa Claus. To the materially minded youngster he is the generous dispenser of the toys and trinkets and treasures which add so much to the joy and zest of life; to the others he personifies that spirit of unselfish regard and service which, even more than the trifles with which he decorates Christmas trees and fills stockings, gives to life that stimulus and exaltation which renders it ennobling and worth while. The deep affection with which he is regarded is well deserved.

When one now visits the store house of the average District Ranger he is at once impressed with its resemblance, in miniature, to the average juvenile conception of Santa Claus's workshop. Upon its shelves and racks are large quantities of the tools and equipment and supplies required for the comfort and well-being and effectiveness of the many men who labor within the District to develop its resources, or who may at any time be called to protect it from the devastation of fire. Frequently, the illusion is made more complete by the presence of a truck, of many compartments and secret hiding places, which visibly is capable of performing many of the functions of the well known eight reindeer and sleigh, the commonly accepted method of transportation for Santa Claus and his supply of gifts. One may be disposed to wonder as to the Ranger's ability to make entrances and exits by the chimney route, but this thought is stifled by recognition that he has done some other things almost as difficult.

But as one meditates, the thought comes that the similarity between the Ranger and Santa Claus is by no means restricted to the dispensation of good things to eat or more convenient tools with which to work or play. If he is the right kind of Ranger, as most of them are, he personifies also that higher spirit of unselfish service and friendly regard through which life blossoms into its fullest and happiest expression; not only personifies it but translates it into concrete forms and daily application. And he works at this job not one day in the year but every day; he is a 365 day Santa Claus, not a 24 hour one.

He can not soar aloft in the traditional sleigh, this Ranger, and like his prototype see through slate or shingle into the hearts and souls of men, but he can stand on some high pinnacle within his district and, gazing off across the adjacent valleys, see in his mind's eye the communities and the individual homes to which his work is bringing economic security, the promise of collective and individual progress, the increase in personal opportunity, the greater happiness and fullness of life, which should be the goal, the life objective, of every man who loves his fellow men. And if he is the right kind of a Ranger he will realize that his opportunity to be a 365 day Santa Claus is by far the finest and most wonderful opportunity that he could ask of life.

MERRY CHRISTMAS

In a spirit of Christmas, ye Ed has demanded, Some message to all of our Service alike. To rough hardy worker, high-brow researcher, Stenographer, messenger, ranger, and wife, Alaska's stout boatman, and Florida's roadman, The Sierra's protector, New Hampshire's big scaler, The Idaho marker, the Michigan planter, Brass hat and bug hunter, range shark and cruiser,- To all who have part in our forestry life - Good luck and good cheer thru the oncoming year And meantime the best that Christmas tide brings. No new way to say it could strengthen the meaning Nor make it more heartfelt however it rings. - E. E. Carter.

By C. E. Rachford

IT HELPS SOME

It sometimes helps to know that others are studying and worrying about the problems in which you are interested. There are, of course, various forms of studying and worrying. There is the man who hears certain things, believes them to be facts, and reaches conclusions accordingly. He is the one who depends on hearsay and calls it study. He is usually the fellow who talks most and loudest and gives Forest officers the greatest amount of trouble.

Then there is the fellow who has an interest in a particular subject, the fellow with a hobby. He is often the one from which the greatest amount of information can be secured on the thing in which he is interested, but from whom little data can be secured on subjects not directly related to it. His knowledge on the particular subject is acquired through a long period of close study and investigation. It is so convincing we respect it at first contact. We refer to him as an "authority".

Then there is the third class of individual, to whom we refer as the "walking encyclopedia". He is the fellow who has an uncanny way of assembling and digesting a large amount of information on a variety of related subjects. He sifts out facts and discards all other information not pertinent to a sound conclusion. He is the fellow to whom we look for correlation and maintenance of balance.

I'll wager that every Forest officer has had experience with each one of these classes. They are present at almost all of the various public meetings where the work of the Forest Service is discussed. The success or failure of such meetings is largely traceable to the predominance of one of these classes. If we have the first class in the majority, results are disappointing and we leave the meeting with a feeling of failure. If the second and third classes dominate we usually term the meeting a "decided success". Seldom do we see the first class of individual entirely absent. We usually go to a meeting prepared to withstand his onslaughts. We return with great elation when we find him absent.

It was with this feeling I returned from the Fifteenth National Game Conference, held in New York City on December 3 and 4. Assembled at this conference were representatives of every national conservation organization in America, each one submitting some major project in which his organization is vitally interested. As man after man presented his views I began to realize my good fortune in being able to listen to men who knew their subjects.

The first day of the meeting was devoted to game breeding and here's where the "hobbyist" reigned supreme. Not only did we learn the trials, difficulties, and discouragements of the raiser of quail, partridges, and pheasants, but we were informed on how all these might be successfully met by the process of training and educating game breeders as provided by the Game Conservation Institute. While listening to the discussion of the difficulties of game breeders I asked a man sitting beside me (he was afterward placed in the third class described above): "What is vermin?" His answer was: "Any animal or bird which injures or destroys the particular species in which you are interested." Of course he was defining the word for the men who had so far spoken and not for the man who is interested in all species of wild life. The definition, however, called to mind that big class of conservationists -- Forest officers, who are interested in and trying to maintain a balanced view on all species. It pointed to the extreme need of correlation and a better conception of the problem as a whole.

Then we had the pleasure of finding out how little we really know of life histories and habits, through such men as Leopold, who spoke on "Fact Finding"; Dr. H. C. Bryant of California, whose address on "Conservation Fundamentals of the West" made every one sit up and take notice; and Dr. Paul R. Needham, who discussed "Trout Streams and Trout Foods" and showed that even the poor fish must have food.

The success of the meeting was due to a well rounded out program covering all phases of game and bird life, which was properly correlated with other conservation questions by such leading authorities as Dr. Henry Baldwin Ward, who spoke on the "National Pollution Menace"; Paul G. Redington, who discussed "Certain Aspects of Wild Life Conservation", and John B. Burnham, who outlined a "National Conservation Policy".

Yes, it was a great meeting, and before any one draws an erroneous impression let me tell you the Forest Service was not overlooked. It received a lot of commendation and constructive criticism. That the problems of game administration on the National Forests were keenly appreciated was most apparent. Local Forest officers were highly commended for the work which has been done.

At this Christmas season it does help to know that others are studying and worrying about your problems, and that the leading conservationists of the country take time to lend their best efforts in the solution of questions of more or less daily thought in the minds of Forest officers. As Christmas comes and goes let's watch the progress of game administration on the National Forests. My compliments go to all -

QUESTIONNAIRES AND SANTA CLAUS

By Fred Morrell, D. 1.

A District Forester at home puts in his time figuring out things for other folks to do. Here in Washington he does (if he can) the jobs that other people assign to him and that is why I am trying to "write a Christmas story about reclassification," a job assigned me by the Bulletin Editor. It sounds to me about like asking a Ranger to build a cabin resembling the Lincoln Memorial out of $14.39 cash and contributed time of embryo foresters whose previous use of the ax has been limited to the conversion of packing boxes into kindling for the furnace. But when we have made requests like that described above of Rangers, they have set the example of doing the best they could, so here goes.

In the Forest Service as in other families, the junior members are prone to think of the old man as an indispensable but uncharitable complement to growing into manhood and womanhood, one who puts in all his time thinking up things that can't be done and putting the kibosh on things that can and should be done. That is about the way we sometimes get to thinking of the Forester as head of the Forest Service family and Chiefs of Branch, District Foresters, etc. - big brothers - but along about Christmas time this view of the family provider is modified by sights of his coming home with mysterious packages, and for one day in the year at least he is held in high esteem by the whole clan.

Now that is about the way, as it seems to me, that we should regard the senior members of the Forest Service family in this reclassification matter. They didn't talk at all like they ordinarily do about no-account Rangers, Clerks, Supervisors, etc., who are always leaving undone what they should do and doing what they should not do. But all tried to talk at once (and usually succeeded) about the big jobs all the field personnel have to do and how well they do them. YOU'D BE SURPRISED! And the Forester and Chiefs of Branch not only fell for but abetted that line of language. In fact, if big brother from the District was inclined to pinch down a little on the size of the popcorn ball that was planned for Ranger Bill's sock, some one of the disenfranchised was likely as not to speak a few words in his favor. And so all of us got away with a large quantity, though often a very poor quality, of favorable talk. (The writer suspects that, except for District 1, it was much more favorable than the situation warrants.)

There was, of course, much difference of opinion and many questions not easy of solution. For example, it isn't easy to decide how the ability to run a he-man ranger district, with its problems of fire and grazing and sales and dudes, compares with the ability necessary to find the answer to an unsolved problem in research. Sometimes we were able to decide such questions on the evidence, sometimes it had to be done by majority vote. But we did the best we could and worked out what seemed fair salary allocations. These have been approved by the Forester and by Dr. Stockberger for the Department, and all that remains to be done is to get their approval by the Personnel Classification Board and by Congress. That will be the Washington office job and it is about like saying that we have forwarded men and supplies to the fire and all that remains is to put it out.

The reclassification recommended will, if effected, represent a substantial improvement in conditions of employees in the field portion of the Forest Service. We must, however, keep in mind the fact that there is no assurance that it will be approved. It should also be understood that big, round Santa Claus, sometimes called "Congress," may not have time to attend to our wants this Christmas. He has a lot of things to do and his stay at Washington will, as you know, be short this winter. So if the reindeer don't travel fast enough to get around to our house, let us remember that Santa, through his representative, Mr. Welch, treated us pretty well last Fourth of July, and not grumble too much if we don't get immediate returns from those long questionnaire letters that we wrote for sending up the chimney on Christmas Eve.

PARK BONDS WIN STATEWIDE APPROVAL

"A signal victory for the cause of conservation, - an emphatic assertion of the people's unswerving allegiance to the crusade for the preservation and protection of California's forests."

Such, in its general application, was the unmistakable declaration of public policy rendered by California voters in their approval of the park bond proposition at the general election, Dr. George C. Pardee, chairman of the State Board of Forestry, declared in his analysis of the vote.

"Specifically, the people endorsed the great statewide park development program when they gave their approval of the $6,000,000 park bond issue," declared Dr. Pardee. "But beyond that, they aligned themselves with a basic principle - the principle that California's great natural resources, her forests and her beaches, must be protected and preserved for the Californians of today and the generations yet to come.

"The cause of conservation has taken root in the hearts of the people and this overwhelming vote for a conservation measure, I believe, will have far-reaching effect in forwarding forestry protection as well as park development."

The majority of almost three to one for the park bond issue, Dr. Pardee predicted, will give new impetus to the movement to secure an adequate budget for forest fire prevention and suppression - an issue now pending.

"If the people wish the State to purchase and preserve great forest tracts, save them from exploitation by private interests and make them public playgrounds for the good of the State as a whole," he said, "it is axiomatic that they also want them protected from their natural enemy - fire.

"There is no logic in spending millions of dollars for the purchase and development of groves of redwoods and other forest lands unless we also build up our lines of defense to halt devastation of these forests by fire.

"Governor Young, and Mr. Heron, as director of finance, both stated when we submitted our new forestry budget a few weeks ago that they were sympathetic with the expansion program but that the people must give the final answer. We, of the forestry board, feel that the people have now given their answer and that forestry is about to secure the support it has long needed." - D. 5 Bulletin.

THE SUPREME COURT RENDERS DECISION IN THE KAIBAB DEER CASE

By R. R. Hill, Washington

On November 19 the Supreme Court rendered its decision on the Appeal by the State of Arizona from the decree of the United States District Court in which a temporary injunction was issued restraining the State or County officials from interfering with Federal employees in killing deer on the Grand Canyon Game Preserve, a large part of which lies within the Kaibab National Forest. The decree of the Lower Court contained the limitation that it should not be construed to permit the licensing of hunters to kill deer in violation of the State Game Laws.

The Solicitor General in arguing the case before the Supreme Court did not concede the authority of the court to make this limitation but indicated that he was content to let the decree stand. The Supreme Court therefore passed the matter without consideration and affirmed the decree of the District Court with the modification that all carcasses of deer shipped outside the boundaries of the preserve should be plainly marked by tags in such manner as the Secretary of Agriculture may prescribe to show that the deer were killed under his authority within the limits of the preserve.

The District Forester has been authorized to execute a plan whereby hunters employed by the Government will kill deer to be transported in Government trucks to the Indian Agencies in Arizona for use in the Indian Schools. This plan developed by the District Forester had been presented previously to the State officials of Arizona but because of their opposition action on it had been delayed pending the decision of the Supreme Court in the Appeal case.

The application of this plan will restrict the deer to be removed to the number that can be used at the Indian Schools. It does not offer an adequate solution of the large excess deer problem. There is a possibility, however, that the State officials will now see their way clear to cooperate with the Forest Service in applying some practical plan for effectually controlling the number of deer on the preserve in order that wild life there may be properly conserved and the forest and forage resources properly administered.

YE EDITOR DISCOVERS

The Society of Agronomy recently held a meeting in Washington, at which Mr. Chapline presented a paper on the erosion work of the Forest Service as affected by range management. Dr. Lowdermilk of California sent a paper on erosion lessons to be learned from the Orient. As an out-growth of this meeting there is on foot preparation of a rather comprehensive program of erosion studies involving the work of the Forest Service, Bureau of Public Roads, and Bureau of Chemistry and Soils. This work ties in with some of the current investigations now carried on at the Range and Forest Experiment Stations and with the proposed further extension to the Mississippi Valley and to other sections of the country. It is estimated that a comprehensive national program of erosion and water research would cost in the neighborhood of approximately $150,000 a year.

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Most of the letters from the District Foresters on fire research are in and are being carefully read to judge by the deeply wrinkled brows of various members of the Washington office.

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The initial issue of the Congressional Record of this session of Congress shows very few changes in the two House Committees with which the Forest Service has most to do. The death of Governor Rubey creates a vacancy in the Democratic wing in the committee on agriculture that has not yet been filled, while the appointment of Representative Sinnott as a judge of the Court of Claims has resulted in the chairmanship of the House Committee on Public Lands being taken over by Representative Addison T. Smith of Idaho and in the creation of a vacancy in the Republican membership of the committee which has not yet been filled.

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Arrangements have been made for a meeting of the National Forest Reservation Commission at 10 a.m. December 12. The commission will be asked to consider not only a program of purchases which will clean up all unobligated funds but also a program of new purchase areas, including three in Wisconsin, an additional unit in extreme east central Minnesota, another in the upper peninsula of Michigan and still another in southern Vermont, with the possibility that District 7 may come under the wire with recommendations for two areas in Florida. If the commission can be induced to approve this program there will be a material expansion, territorially and in volume, in the acquisition work of the Service, which thus will be extended into several new territories and will require the consideration of many new problems.

INTERNATIONAL CIVIL AERONAUTICS CONFERENCE

The International Civil Aeronautics Conference which is to be held in Washington on December 12-14 probably will be an important development in that field of more than passing interest to the Forest Service. Because of its apparent relation to the work of the Department of Agriculture that Department was authorized to designate five representatives, and in recognition of the ways in which the National Forests are involved the Department decided that one of its representatives should be from the Forest Service, so that the views of the Forest Service regarding the use of airplanes in the protection of National Forests, and the location of airways and landing fields could be made available to the conference.

An alluring picture of the possibilities of the Conference was presented to Headley with the hope that he or some one of the visiting District Foresters would at once grasp the opportunity to participate in this epochal event, but the proposal was a dud. The Chief of Lands therefore has been designated as the Service representative and will be more than glad to attempt to bring to the attention of the conference any suggestions that men in the field may care to offer, which arrive in time for due consideration.

Incidentally, the Service is confronted with the need for early action in the formulation of a policy and procedure for handling applications for landing fields within the National Forests. Lou Barrett, who has been hobnobbing with many of the prominent military and civil leaders in aeronautics on the Pacific coast, has volunteered to solicit their suggestions and thereafter to draft a statement of policy and procedure for presentation to the other Districts, during the coming winter. In the meantime, the Department of the Interior, in conformity with the Act of May 24, 1928, Public No. 499, has issued circular No. 1161, containing regulations governing the leasing of public lands for airports and aviation fields. In the interest of uniformity of interdepartmental action it may be well to apply the principles set forth in this circular to National Forest lands as fully as the varying circumstances will permit. - L. F. K.

WHAT HAS HAPPENED?

Only to those who have seen the present dry Mississippi and Ohio rivers with their load of silt and mud, with their disgusting color, and with their loads of germs that make domestic use impossible without drastic treatment; only to those are the words of Thomas Ashe, an English traveler in America in 1806, of full import:

"The Messauri is remarkably cold, muddy and rapid."

"Above the mouth of the Messauri, the Mississippi is as clear and as gentle at the Ohio."

"The junction of the two rivers is very beautiful. The waters of the Messauri being white or gray and those of the Mississippi a transparent green.

Further, Audubon (the famous painter of American birds) wrote of the "crystal clear waters of the Ohio" so clear that "giant fish could be seen in the pools." E. N. M.

"Education is, instead, a life-long process. How well any one of us becomes educated does not depend essentially on how much he comes to know in his school and college years, but rather upon how effectively he has come to be imbued with the spirit of study in his school and college years to as to assure his remaining a student thruout life. It is amazing how general the notion seems to be that we study only when we have teachers who require it." -F. J. Kelly, Ph. D., in "The University in Prospect."

PLANTS THAT PAVE THE WAY IN RESTOCKING RANGE IN WYOMING

In the restoration of overgrazed range on the Hayden National Forest, in southern Wyoming, the first plants to appear were tarweed and senecio, and it looked as though these would take the entire range. Gradually better forage plants gained a foothold, and not only have the ranges been restored to their original state, but satisfactory restocking of lodgepole pine is gradually taking place and encroaching upon the parks. - D. 4 Bulletin.

WHAT WILL THEY USE NEXT?

We have received checks and envelopes addressed to Mr. Grazing Fee, District Fiscal Agent and Mr. Prevent Forest Fires - It Pays - but the latest is a check addressed to "The Prevent Forest and Fires" which is evidence that while perhaps our educational work along accounting lines has perhaps not accomplished all it should, our slogan appearing on signs, envelopes and other publicity matter has taken deep root. - D. 3 Bulletin.

OLD MILL RUNS ON ITS CENTURY BIRTHDAY

James C. Hawkins, eighty-nine years old, is running every day the grain mill constructed by his father in 1828 at Huntsville, Ark. The Chicago Daily News marks the Century anniversary in these lines.

"The original building remains in a state of preservation practically perfect. The frame work is of hand hewn White Oak logs dovetailed and spiked with Yellow Poplar. The roof is of Red Oak clapboards. The weather-boarding is of rough-sawed Poplar. The floors are made of split logs******the old log dam still stands, and the overshot wheel, made of Cypress braced with bars of wrought iron; the grinding burr, hand cut from a mammoth flint boulder, and the hoppers, built of Sycamore wood, all continue to function with dependable regularity." - Nat'l. Lbr. Mfgr's. Assn. News Release.

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An interesting series of studies of the effect of early grazing of the range have been conducted at the U. S. Sheep Experiment Station, Dubois, Idaho. In a comparison of two 80-acre pastures, the one protected from grazing in the early spring and fully grazed in the fall showed, at the end of five years, a cumulative effect of about 87 per cent more forage than the pasture that was grazed heavily in the spring and again in the fall. The average difference over the five-year period was 16 per cent in favor of protection in the spring. These figures show conclusively that the pasture protected in the spring is building up while the unprotected, over-grazed pasture is wearing out. The Forest Service is cooperating with the Bureau of Animal Industry in this work. - From "Page, Line and Paragraph."

ON RETIREMENT

Retirement at 62 can not ordinarily be approved for any class of Forest officers except Rangers, according to a ruling of the Civil Service Commission, but special cases apparently will be considered by the Commission. Word has just been received that Assistant Supervisor Frederic J. Jeken of the San Bernardino Forest has been put up as a special case and the Commission has approved his retirement at the age of 62. - D. 4 Bulletin.

OUT FISHIN'

A feller isn't thinkin' mean - Out fishin';
His thoughts are mostly good and clean, - Out fishin';
He doesn't knock his fellow men,
Or harbor any grudges then;
A feller's at his finest, when
Out fishin'.

The rich are comrades to the poor, - Out fishin';
All brothers of a common lure, - Out fishin';
The urchin with the pin and string
Can chum with millionaires an' king;
Vain pride is a forgotten thing,
Out fishin'.

A feller gets a chance to dream, - Out fishin';
He learns the beauties of a stream, - Out fishin';
An' he can wash his soul in air,
That isn't foul with selfish care,
An' relish plain an' simple fare
Out fishin'.

A feller has no time fer hate, - Out fishin';
He isn't eager to be great, - Out fishin';
He isn't thinking thoughts of self
Or goods stacked high upon a shelf,
But he is always just himself,
Out fishin'.

A feller's glad to be a friend, - Out fishin';
A helping hand he'll always lend, - Out fishin';
The brotherhood of rod an' line,
An' sky an' stream is always fine;
Men come real close to God's design,
Out fishin'.

A feller isn't plotting schemes, - Out fishin';
He's only busy with his dreams, - Out fishin';
His livery is a coat of tan,
His creed to do the best he can;
A feller's always mostly man,
Out fishin'.

- Edgar Guest

> In the administration of the forest reserves it must be clearly borne in mind that all land is to be devoted to its most productive use for the permanent good of the whole people. * * * Where conflicting interests must be reconciled, the question will always be decided from the standpoint of the greatest good of the greatest number in the long run.
>
> James Wilson, Secretary of Agriculture
>
> February 1, 1905

Service Bulletin

Contents Confidential

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DISTRICT FORESTER MEETING

By Frank C. W. Pooler, D. 3.

The meeting held in the Forester's office on November 26 and 27 was noteworthy, among other things, for the fact that it was the first Washington meeting since the National Forest Districts were organized at which all the Districts were represented. Branch Chiefs and other Washington members participated in the proceedings, with Major Stuart and Mr. Sherman alternately presiding.

By all odds the most important matters discussed were those relating to personnel and financial control and forestry extension. It was decided to push ranger district analyses to completion as rapidly as possible, and in the meantime by use of the work unit index system compute volume of work by Forests and Districts in terms of work units, for the immediate purpose of using the results gradually to bring about better correlation between volume of work and man power and financial allotments. The important decision to break away from old precedents in organization and allotment matters and gradually substitute therefor a correlating system based upon computed work units carries with it an immediate obligation on the part of the entire personnel to enter wholeheartedly into the program of job analysis and constructively aid in building up a system that will correctly measure volume of work and then use it. This means building toward ranger organization on the basis of full ranger jobs where this can be accomplished by changes in boundaries, or in other ways, and the application of the same principle to Forests with a similar object in view. It means also a resurvey of staff and administrative guard needs. After considerable discussion it was decided to make a start next March in taking the findings of work analyses into account in the allotment of funds as between Districts and as between Forests in the same District, in the belief that in the long run this will mean better correlation of the work load and of the funds needed to carry it. Information bearing on the use of administrative guards and forest staff men is now to be called for to aid in the intricate job of casting up the balance sheet by Districts, Forests, and ranger districts in such a way as to show units of work on one side of the ledger and available man power and money on the other.

The importance of the establishment of sensible local standards in connection with job analyses and of thorough-going inspection and supervision to make certain they are adhered to or corrected as found warranted was strongly emphasized by the Forester as a necessary part of the program if the best use of available time and money is to be secured. Constructive leadership on the part of responsible supervising officers was also stressed as a major requirement in National Forest administration under our decentralized form of organization. The keynote of the meeting was not that men should be encouraged and urged to work harder but to work to better purpose, and that the same money could be made to buy more worth-while results if more scientifically distributed as between units of administration. The understanding was that adjustments between units of administration would have to be accomplished by a gradual process, in order to meet practical organization needs and to allow time to check the correctness of computations based on the work unit index system.

Discussion of the forestry extension or private and state forestry movement by regions brought out strikingly the extent to which the problem breaks up into a large aggregation of special situations, each with its own set of limiting factors, local requirements, and ultimate goal. In an effort to approach the general problem intelligently and to make certain that the situation in its entirety is squarely faced and effectively attacked, the Forester indicated his intention to call on the Districts for reports that can be used as a basis for sizing up the job ahead and for formulating a coordinated program for the immediate and more distant future.

The meeting afforded a much needed opportunity for the Washington and District groups to arrive at a common understanding on fundamentals, and entirely aside from the field personnel classification job, which was the immediate occasion of calling the District group to Washington, unquestionably justified the expense involved. The understandings arrived at will go a long way toward setting the stage for renewed progress in National Forest administration, and it is doubtful if conclusions of such far-reaching importance could have been amicably reached in any other way or in any other place. District lines broke down under a Washington atmosphere of responsibility in a Service-wide sense.

ENGLISH AS SHE IS SPOKE, --- AND OTHER THINGS

By J. S. Boyce, Northeastern For. Exp. Sta.

Now that the desperately earnest discussion of the value of plus-fours for field wear in the wild, untamed West has somewhat subsided (this is not questioned in the East, attend a field trip of foresters and "you just know they wear them"), it seems timely to bring up the question of a correspondence course for foresters in English as used in the West and in the East. The writer, a recently transplanted westerner, is at present having extreme difficulty with the variety of the English language current in the New England States. When a sign is seen that states, "Flume 100 yards ahead", and in your ignorance you look for the usual wooden structure with water rushing down it, you find instead that it is a canyon or a gorge, and even more distressing it is quite likely to cost you two-bits (pardon me, twenty five cents) to look at it. Furthermore the creeks are all known as brooks, trails as paths, and the punkies or no-see-ums as midges (no difference in the bite!) When a thing is put over in this country it isn't accomplished but merely postponed. The famous Franconia Notch in the White Mountains would be known as Franconia Pass in the West and as for the "Mountains" well that is another story. When you are told to "Trig the wheel" it simply means to chuck a stone in behind the back wheel to keep the car from rolling down hill or in other words to block the wheel. Soda pop is known as cold tonic! In a Volstead-ridden nation, this last is nothing short of cruelty to guileless strangers leading to bitter disappointment and in some cases to severe nerve shock.

While riding with a local forester one day he remarked, "There is a good catch". I looked around for a small boy with a string of fish, but I found that he was actually referring to a good stand of small seedlings and saplings along the roadside. Later he remarked that it was going to burn off soon; so in my innocence I asked him how he knew there was going to be a fire in the reproduction we were passing through. He told me he was referring to the fog, which seemed about to clear or lift.

On New England roads don't be misled by a sign "Bridge up" and drive merrily along, or things will happen. After one of the numerous New England floods has washed out a bridge and the pieces of the bridge are in the stream bed along with the boulders a sign is put up by the roadside announcing "Bridge up". In other words, when a bridge is down in the rest of the country it is up in New England, if you get what I mean.

With all the boasting and exaggeration of which the West is accused, I thought I had never known anything that quite equalled the New England habit of referring to the hills as mountains, but on the other hand when they refer to a pond it is quite likely to be a large and very beautiful lake which in the West would be advertised widely as "The Gem of the Sierras", "The Cream of the Cascades" or "The Jewel of the Rockies."

What a climate! Coming from the much maligned wet weather of Oregon it is difficult to get used to the moisture here. Over ten inches of rain in August and it is wet even when it doesn't rain. Every lungful of air makes a splashing sound. One day the better three-quarters insisted that an emergency call be sent for the plumber since all the bathroom plumbing was leaking. Investigation showed that it was merely moisture condensing on the pipes and porcelain, then dripping onto the floor (temperature 94 degrees Fahrenheit, relative humidity 96).

But the country is more uniformly lovely than any other in my experience. Lakes or ponds of rare beauty everywhere, with green, rolling hills dotted with trim farmhouses or little villages with magnificent shade trees. The use of paint is universal and the white houses with green shutters are a perfect addition to the landscape. The mixture of deciduous trees in the woods lends a warmth and color that is lacking in the rather sombre stands of pure conifers throughout the West, and when fall comes the coloring is indescribable, - like the Painted Desert in Arizona. A splendid coast line varying from the sandy beaches in Massachusetts and New Hampshire to the rugged, rocky coast of Maine. Then, in northern Maine a large area without roads or railroads, where the common means of transportation is by canoe on the innumerable lakes or rivers, and you can get as completely away from people as you can anywhere in the West. No wonder the New Englander loves his country.

In Maine many of the hotels haven't yet become modernized and still treat the traveller as a guest, giving him splendid food and good accommodations at reasonable rates, rather than regarding him as a necessary inconvenience or a somewhat unwelcome intruder. In Maine too, the people go "Thutty miles down the rud to see the bot", rather than "Thirty miles down the road to see the boat".

In Vermont, the true birthplace of the administration's economy program, that sort of thing is a gift. All of us are familiar with the sign in the wash rooms in railroad stations that soap and towel may be obtained from the porter on payment of 5 cents. But there is nothing to prevent the thrifty from washing their hands without soap and drying them on their handkerchiefs. But in the wash room of the railroad station in the largest town in Vermont there was a sign that soap and towel cost 10 cents and the water was shut off. No payee, no washee.

Finally after spending a field season in rather extensive travel to get acquainted with the region the writer was unexpectedly successful in completing a piece of research; an unusual record for an investigator after a few months in an entirely new region. But in my journeys of the past twenty years it has always puzzled me as to what became of the obsolete railroad rolling stock. Now I know, - it is still being used on the New England railroads.

POST-MORTEM POSSIBILITIES

By L. F. Kneipp, Washington

In 1919 the Forest Service made rather an extensive survey of the conditions existing upon all areas then included in June 11 entries or other homestead claims within the National Forests, showing the use then being made of such lands for agriculture, grazing, summer residential, or purposes other than exclusive sources of livelihood for the families of bona fide settlers. The reports by States pretty consistently showed that on an average only about 10 per cent of the alienated lands actually and honestly were being used for the purposes for which they presumably had been alienated. The study was a pretty striking confirmation of the soundness of the classification made by the Forest Service in conformity with the provisions of the Act of August 10, 1912.

One of the Districts has suggested that a repetition of this survey after the expiration of a period of 10 years, using the original survey as a basis of comparison, would develop some very interesting facts bearing upon the whole question of land economics within the National Forests or other comparable areas. The feeling is that the conditions that would be disclosed by such a repetition of the survey would be even more sweepingly confirmatory of the land and classification policies of the Forest Service than was the first one and would serve to demonstrate the impracticability of an attempt to dedicate to agriculture under such conditions as now exist or can be foreseen lands such as those which substantially comprise the National Forests.

The possibilities of such a study appear to be all that have been pictured. On the other hand, a survey of this kind means time and effort which can be made available only at the expense of other activities. No proposal is being made for the initiation of such a study in a general way, but if within a given District or even a given National Forest there is reason to believe that such a further survey would place a quietus upon present or prospective agitation for a liberalized listing policy or any other land economic question, and if the time for such a survey could be made available without a sacrifice of other interests, the enlightening and valuable determinations which would result clearly might justify the effort and time required.

LARKSPUR ERADICATION PROVES SUCCESS

Examination was recently made of the larkspur eradication areas on the Stanislaus National Forest by Messrs. Nelson, Hall, Barker, Cary, and West, and conditions found were very gratifying. Work on some of the areas inspected was started in 1913 and the results on the plots selected and staked out for experimental purposes indicate that grubbing has been about 98 per cent effective in willow thickets and 100 per cent effective on open areas. No grubbing has been done on these plots since 1917.

On the Gabbott Meadow range, where 68 acres were grubbed in 1913 and 1914, it was found that eradication of larkspur was about 93 per cent effective over the range as a whole. No losses from larkspur poisoning have occurred on this range since eradication was completed. Prior to 1913 the annual loss on the range ran from 15 to 30 head of cattle. The cost of grubbing was $10 per acre. Since 1914 an average of three man-days of labor per year has been necessary to remove plants which have reappeared on the range.

Part of the Eagle Meadow range grubbed in 1917 was examined, and it was found that about one larkspur plant is growing where probably 70 or 80 flourished before.

The Kennedy Meadow range, where grubbing was started in 1917 was found to be nearly clear of larkspur. It is estimated that there are now less than 50 plants to the acre where prior to grubbing they ran as high as 1100 to an acre. This range is an excellent example of what can be accomplished by the eradication of larkspur on cattle ranges. Prior to 1917 there was an average loss from larkspur poisoning on the range of 14 cattle out of 250 head grazed. A large portion of the best feed could not be used by cattle and had to be given to sheep at a loss to the lessee of the land, and the cattle had to be herded constantly to keep them off poisonous areas where some of the best feed was to be found. Since 1918 the cattle have been allowed to graze over the entire range at will, and there has been no loss from larkspur poisoning.

The work to date has cost about $2,000, and the permittee who uses the range feels that in the 11 years since the range was first grubbed he has made a saving of 154 cattle, has produced more beef because the cattle have not been disturbed by constant herding, has reduced the amount of labor formerly necessary in herding the cattle, and has been able to utilize all the feed and make a material increase in his band. All of which he estimates, up to the close of the season of 1928, has been worth about $12,000 to him. --T.W., D. 5 Bulletin.

AND NOW INTO RUSSIAN!

The old adage, "A prophet is not without honor save in his own country," is in a fair way to be thrown into the limbo of discarded theories along with other well-intentioned but untrue statements.

This outburst is occasioned by the fact that our Raphael Zon is being recognized - and with honor - in his native land, for Dr. J. J. Rostchin of the State University, Georgia, Tiflis, Caucasus, U. S. S. R. has requested permission to translate "Forests and Water in the Light of Scientific Investigation," into Russian. There have been many requests for this publication, of which about 70,000 copies have been printed in three editions. Many requests have come from abroad and while the paper has not been translated in full, so far as I know, translated excerpts from it have appeared in several foreign publications.

As the paper is printed in English, it should be intelligible to most American foresters! Have you read it? - E.N.M.

FRATERNAL BODIES PRACTICE FORESTRY

The Grand Lodge of Free and Accepted Masons of Pennsylvania is one of the organizations that has turned the weight of its influence and benefits of its activities toward planting and forestry practice.

In one of its reports, the lodge gives a review of its activities in the field of forestry. A program that has extended from 1910 to the present is recounted. This work has not been confined alone to any of the phases of planting such as shade of forest trees.

One year's activity by one of the subordinate lodges shows 26,000 Norway spruce and white pine seedlings planted. It also shows annual and regularly planned settings of trees on the part of the Grand Lodge and individual lodges.

A feature of the tree planting is the setting of a Memorial Grove, each tree named for a member of the order killed during the World War. - From "Conservation and Industry" of the North Carolina Department of Conservation and Development, September, 1928.

YE EDITOR DISCOVERS

"Some Forestry for Dinner Time" was served up by the Chief Forester at the noon meal hour on December 10. It is estimated that more than 400,000 persons partook of the feed. The forestry diet was served via radio in a hook-up of 13 stations covering the central time zone of the United States. Major Stuart's talk came in the series of Noontime Farm and Home programs, now being given five days a week by the Department of Agriculture through the courtesy of the National Broadcasting Company. Other Forest officers are scheduled to speak later on in the series.

The noon network includes the following stations: KFKX, Chicago; KDKA, Pittsburgh; WCCO, Minneapolis; WOW, Omaha; WDAF, Kansas City; KWK, St. Louis; KVOO, Tulsa; WOAI, San Antonio; WSM, Nashville; WSB, Atlanta; KOA, Denver; WMC, Memphis; and WLW, Cincinnati.

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Loveridge's reputation for integrity is not as high with Maryland police as it is with Forest officers. The story goes like this - he bought a new car, took delivery in Detroit, and was driving home with an "in transit" license furnished him by the manufacturer at Detroit. The manufacturer had assured him that hundreds of cars were sent out with that kind of license. Loveridge got by until he reached the police station on the road near Frederick, Maryland, at which point he was held up. Complete details as to what followed are not obtainable, but we know that he had to telephone to a friend in the Washington office, who rushed to the District Building, secured a pair of 1928 licenses, and sent them out by return buss to Loveridge, who managed somehow to get away and put in his appearance in Washington.

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The file of comments and recommendations on revision of the cost keeping system is accumulating rapidly and Leslie Mahurin is busy making an analysis. It seems to be difficult to analyze and tabulate opinions and recommendations which range all the way from the lowest note on the scale to High C, and Mahurin is having his troubles.

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Assistant District Forester Parkinson, in charge Public Relations D. 4, is expected to arrive in Washington shortly after the first of the year Parkinson is being detailed to PR for a period of two months. We hope he'll like us.

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That the new Pacific Northwest Experiment Station's "Forest Research Notes" contains some interesting material on lightning storms, the relation of average to fully-stocked stands of fir, and growth in the spruce-hemlock type. You will be interested in reading it.

NEW USE FOR JUNIPER BERRIES

By D. C. Ingram, D.6.

The Daily Bulletin (Southwestern District) of November 6 blandly states that "an analysis was made to determine the value of juniper berries as forage." Shades of old Pinus ponderosa! What a picture this conjures! Having devoured all the available vegetation; grass, weeds and browse - palatable and unpalatable - including of course the nutritious yellow pine seedling, the "Carnivorous cow" (to borrow an expression from friend Dayton) now turns her attention to the trees. Hooking her dew claws in the bark stealthily this arboreal creature climbs into the juniper limb by limb in search of food. In her quieter and saner moments she browses moodily on the juniper berries. If disturbed, I I shudder to hear her chewing wood.

From this vantage point perchance she spies a Forest Examiner, or Researcher (I trust Grazing men are immune) in which case - well, it's just too bad, that's all. In such extremeties no wonder soapweed is hastily prepared by chopping to appease her rapacious appetite. An emergency ration indeed.

We of the Northwest (where cows are fortunately contented) hear strange things of you-all in the South where the nights are Arizonic and the days bereft of rain. In a recent issue of the Literary Digest the prepotency of a Texas mule is authentically asserted. A strange land indeed, fecund and ferocious! What summer madness is this, however, that begets food analysis of coniferous fruits to your own undoing?

Tell it not in Range Management. Whisper it not in the streets of Research; - and above all keep it from "Bossy."

WEEPING SWEET-GUMS

By W. R. Mattoon, Washington

n a warm day in mid-November in central Mississippi we observed light showers of small drops of liquid sparkling in the sunshine as they fell continuously to the ground. Each time we observed that we were standing near or beneath tall sweet-gum trees. These were mixed with shortleaf pines in a high forest in Newton County, where D. E. Lauderburn, Extension Forester, and I were holding a woods demonstration meeting.

Why were the gum trees weeping? There had been several freezing nights and the leaves were mostly off. We were reminded of the dripping of sap in the early spring from broken twigs of the maples. But this was different as tiny drops were "raining" down from all the gums. Other hardwoods were there, including red and white oaks, hickories, ash, and some yellow poplars, but they were dry.

Could these be small drops of sap oozing from pores in the leaf-scars, as the result of the warmth of sunshine following cold nights? If so, is the corky layer of tissue over the leaf scars of sweet gum trees very thin or porous? What light can the plant physiologist throw on this woods phenomena?

SOME MISSISSIPPI RIVER HISTORY

The merit of first discovering the Mississippi (or in the language of the natives, Meschasipi, for the general appellation of the former is a corruption of the latter) according to Lewis Hennepin's account published in London in 1698, is due to the Sieur la Salle, who discovered that river in 1682. It seems that Father Hennepin forgot that this river was previously discovered by Ferdinand de Soto in 1541, also by Colonel Wood in 1654, and by Captain Bolt in 1670. Monsieur de la Salle was the first who traversed that river (Thomas Hutchins, "An Historical Narrative and Description of Louisiana," 1784.) E. N. M.

RANGE APPRAISAL AND PROSPECTIVE FEES, D-2

By J. H. Hatton, D. 2.

Various adjustments in grazing fees under range appraisal beginning in 1923, have resulted in rather marked changes in basic rates and prospective grazing revenues. For D-2 as a whole, the basic C. & H. per - month - per - head has been reduced from $.241 to $.17 (old average fee $.105), and expected cattle revenues from $643,762.28 to $489,039.30 - a difference of $154,722.98. With sheep, the District average in monthly fees has gone down in different steps of range appraisal from $.072 to $.054 per - head - per - month (old average fee for the District $.027). This in percentages is a little under 1 per cent less of a reduction than in the cattle rates; the latter being about 24.1 per cent below the first figures. The reduction in expected sheep revenues for the District went down from $419,293.54 to $314,293.06, a difference of $105,000.48. The modifications in appraisal for the District, therefore, have resulted in a reduction of $259,723.46 revenues which were originally expected from both cattle and sheep. On the basis of present livestock uses, the fees as at present calculated will return, when fully effective, about $802,000.00 as against a present actual net return of $377,323.17. D-2 receipts from timber the last fiscal year were $345,866.60.

The cattle fees, as at present established, are still about 61.9 per cent above the old fees, and the sheep fees will average 100 per cent higher than the old fees.

FIRST AMERICAN LIVESTOCK CAME FROM SPAIN

Next year, beginning March 15, an international exposition is to be held at Seville, Spain, in which the United States will take an official part through Act of Congress. A commission has been appointed, which, among other things, is planning to present an exhibit portraying the development of the live-stock industry in America, from the days of Columbus onward. An announcement recently issued by this commission says in part: "Few Americans may claim an ancestry as old or as blue-blooded as that of the army mule. For, while history records no mule on the passenger list of the 'Mayflower' it does record the fact that the king of Spain in 1785 sent to George Washington a fine Spanish jack, named 'Royal Gift' and two jennets, whose offspring at Mount Vernon was the beginning of a family tree which today has five and one-half million descendents. The history of the live-stock industry dates back to the introduction by Christopher Columbus, under the flag of Spain in 1493, of the first domestic cattle, the exhibit will point out. Sheep were introduced in 1540 by Coronado, also a Spaniard, into what is now the United States. From these beginnings was founded a line of cattle which is unexcelled any place in the world for hardiness and purity of breed. In connection with the mule-producing industry in this country which at the beginning of this year was valued at approximately $500,000,000, the exhibit will show that Spain, to which we owe the introduction of the jack, now imports about 25 per cent of all the mules exported by the United States." - (The Producer) Clipped from D. 3 Bulletin

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